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## ORIGINAL ARTICLES.

### CRIMINAL PROCEDURE AGAINST THE UNLAWFUL PRACTICE OF MEDICINE.*

BY HON. JULIUS M. MAYER,

OF NEW YORK;

JUSTICE OF THE COURT OF SPECIAL SESSIONS OF THE CITY OF NEW YORK, FIRST DIVISION.

WHAT I shall say to-night will not be set forth in a paper, but in a talk, to some extent, on the subject which has been assigned to me. I shall not endeavor to cover by any means all that may be said on the subject, but, this being a gathering of men supposedly learned, at least in two professions, it is my desire to call your attention to two or three things; for I think that if one tries to cover too much ground, he is liable to lose the force of making a few propositions and points which seem to him salient and important. My only justification for talking on this subject is that, under the law applicable to the courts in this city, the criminal court, known as the Court of Special Sessions, is the court before which, in the main, these cases of unlawful practice of medicine are tried; for that court has jurisdiction of misdemeanors committed in this county, and, as the unlawful practice of medicine is defined by the statute as a misdemeanor, cases arising under that statute come before us.

Now, this statute is peculiar, in that it presents to a court in this State a combined question of fact and of law. In some of the States of the Union the practice of medicine has been defined; but I shall not now refer in detail to the States in which there has been a definition. My friend Mr. Andrews, the very capable and efficient counsel of the County Medical Society, has already written an article upon that subject, in which, among other things, he calls attention to the fact that in this State there is no definition of what constitutes the practice of medicine. Let me read from Section 153, Chapter 661, of the Laws of this State of 1893, as amended in the years 1895, 1896, 1901 and 1902. This is the statute under which our court must act:

"Any person who, not then being lawfully authorized to practice medicine within this State and so registered according to law, shall practice medicine in this State without lawful registration or in violation of any provision of this article; and any person who shall buy, sell or fraudulently obtain any medical diploma, license, record, or registration, or who shall aid or abet such buying, selling or fraudulently obtaining, or who shall practice medicine under cover of any medical diploma, license, record, or registration illegally obtained, or signed, or issued unlawfully or under fraudulent representations or mistake of fact in a material regard, or who, after conviction of a felony, shall attempt to practice medicine, or shall so practice, and any person who shall append the letters M.D. to his or her name, or shall assume or advertise the title of doctor (or any title which shall show or tend to show that the person assuming or advertising the same is a practitioner of any of the branches of medicine) in such a manner as to convey the impression that he or she is a legal practitioner of medicine, or of any of its branches without having legally received the medical degree, or without having received a license which constituted at the time an authority to practice medicine under the laws of this State then in force, shall be guilty of a misdemeanor."

You see at the outset that the gist of the crime is the unlawful practice of medicine, and at once the question arises, "What is the practice of medicine?" and that is a question which we have been compelled to determine as a question of law as well as of fact. In many States, the practice of medicine is specifically defined, and then the only duty of the court is to ascertain whether the defendant charged with the crime has done certain acts which come within that definition; but in this State we must determine whether, as matter of law as well of fact, the defendant has practised medicine.

There was a notion at one time that the practice of medicine, within the statute, involved the prescription of drugs. We have held to the contrary; and we have held, in substance, that the practice of medicine consisted, among other things, in the ascertainment—or the pretended ascertainment—of the malady or disease with which the patient was afflicted; that the diagnosing of the case by a person, whether he prescribed drugs or not, constituted the practice of medicine.

In calling your attention to our holdings in this regard, I am not to be understood as passing beforehand upon some questions which may come before us. It would be manifestly improper for me to anticipate, in respect of certain questions, what we may do if those questions are brought before us. I have, however, brought here the records of two or three cases, which may give you some idea as to what we have decided in our court; and I think I am correct in sayinig that no decision of ours in a case involving the unlawful practice of medicine, has been reversed by any of the higher courts.

I call your attention to the case of the People *vs.* Joseph Rohrer, a brief history of which I will read. The defendant was convicted February 14, 1902, in the Court of Special Sessions.

He advertised as a hydropathic physician and conducted a sanitarium and massage institute at 152 East Eighty-sixth Street, New York. He treated the complaining witness for facial paralysis, applying ordinary hand massage and electrical massage. A demurrer to the complaint was entered by the defendant, and thus the ques-

*Paper read before the Society of Medical Jurisprudence.

tion of law directly arose. Briefs were submitted by the counsel for the County Medical Society and the counsel for the defendant, and the question was argued at length. The trial was strongly contested, and the question, so far as the Court of Special Sessions was concerned, was settled, that the treatment of disease by such a method, whether mechanical or by the use of drugs, if done by a non-registered physician, was in violation of the statute. You will see at once that this case brought up the question whether the prescription of drugs was a necessary ingredient of the crime, and we held that it was not. The case was not appealed, and therefore the decision stands as law.

The case of the People *vs.* Julius A. Ward. This defendant was the head of a school of practitioners known as "somatopathists," otherwise known as a kind of "osteopathists." He occupied apartments at 640 Madison Avenue, New York, where he conducted a school and treated disease by methods other than the giving of drugs. The County Medical Society, as we understand it, undertook in this case to get a decision not on the point that the giving of drugs is necessarily a part of the practice of medicine, but that the treatment of a disease involving, as it did, a diagnosis by a person not duly registered as a physician, was a direct violation of law. In this case the point was not contested before the court, for the reason that the defendant, after being advised by counsel, pleaded guilty, and by his own admission came within the purview of the law.

Then, we have had cases of the so-called "water cure"—"hydropathy" I think they call it. We also had the case of a man who was cured by "nature," whatever that might have been; and in both those cases the court convicted, and the court has not been reversed.

My first suggestion to you, therefore, is this: some time or another there is coming before that court or some other court in this State the question of what is practising medicine; and it seems to me to be the duty of the legislature to define what is meant by the "practice of medicine." I realize that efforts have been made in the legislature to that end. What is the practice of medicine ought not to be a question for a court to pass upon; it should be a concrete expression by the people of the State, through its legislature, in clear, definite form; and the legislature, as representing the sentiment of the people, should state in explicit phraseology what constitutes the practice of medicine; then the courts will be able to apply that definition to such cases as come before them. Thus far the community at large—at least, as I am told—and the medical profession have had no cause to complain of the judicial construction placed upon that question, but I regard the State of New York as behind some of the other States in legislation, in its failure to have the courage to clearly define in the statute what is the practice of medicine, and in leaving the determination of that question, to the courts as a question of law.

The difficulty will arise some day in this shape: In the majority of cases which come before us, some wrong has been done, and the medical societies or the district attorney or some agency prosecuting has had the case called to its attention because of some wrong or injury done to a person who has been treated; but some day or another the question will arise in a case where no actual physical harm has yet resulted; and when that case does arise, involving, as it will, the definition of some new "pathy" or "ism," the question is likely to be an exceedingly important one; and it is a very close question as to just how far the courts can go in ascertaining what is or is not the practice of medicine.

My second suggestion—and I think this is one that may be easily carried out in the coming legislature—is that the law with reference to punishments is seriously defective. Let me read you from this same section 153 the part relating to penalties. After defining what is the misdemeanor, the statute continues:

"and on conviction thereof shall be punished by a fine of not more than two hundred and fifty dollars, or imprisonment for six months for the first offence, and on conviction of any subsequent offence, by a fine of not more than five hundred dollars or imprisonment for not less than one year, or by both fine and imprisonment."

The usual maximum punishment for misdemeanors under the Penal Code of this State is one year, or five hundred dollars fine or both. There are some statutes which provide a different penalty, but that is the general provision as to misdemeanors; and where the law defines the doing or the failure to do an act, as a misdemeanor, and does not fix the punishment, the Code steps in and fixes it at one year's imprisonment, or five hundred dollars fine, or both.

My view is that there should never be, in a case of practising medicine unlawfully, a minimum fine or imprisonment. I do not see why the courts should be limited on a first offence against this statute, to punishing a man for not more than six months imprisonment, or not more than two hundred and fifty dollars fine. The first offence under the present law can be punished only by an imprisonment of six months, or a fine of two hundred and fifty dollars; and you will readily see, as I hope to illustrate, that there have come before the court cases in which the court would have felt it just to impose a very much more substantial punishment than this minimum punishment provided by the statute. The inequality and the absurdity of this limitation perhaps might be realized best when I tell you for illustration that, by a provision of the Sanitary Code, it is in our power to punish a man with imprisonment of one year and five hundred dollars fine for expectoration. But if, perchance, that man should purport to prescribe a medicine which might result in an abortion, and the proceeding was not brought under the particular sec-

tion relating to giving abortion medicine but was brought under this law, we would be restricted to imposing a punishment of six months or two hundred and fifty dollars fine. It has been the experience of the justices of the Court of Special Sessions, that it is always a mistake to provide a minimum punishment. With possibly an exception here and there, there should not be a minimum punishment for crime; and the court always ought to have, within the maximum punishment, the free range and discretion which the peculiar facts and circumstances in any particular case warrant. I would therefore recommend, as an affirmative suggestion to your Society, that this law should be amended so as to make a violation of the statute a misdemeanor punishable in the discretion of the court by not more than one year's imprisonment or five hundred dollars fine or both.

Now, thirdly. I think no man who does not sit in that court—except, of course of counsel for the medical societies—appreciates the difficulties which attend a prosecution to be followed by a conviction which will be sustained, in the cases involving unlawful practice of medicine. The ordinary crimes involving larceny and the crimes against property are, as a broad general proposition, easily discoverable. But when a man or woman is practising medicine unlawfully, he or she surrounds himself or herself with every conceivable safeguard. In the first place, the person who is to be treated, and does allow himself to be treated rarely will turn State's evidence. If you send a detective to a false doctor, the detective has very great difficulty in obtaining any corroboration, because these doctors, so-called, will rarely, if ever, treat a patient or prescribe for him when anybody else is with him. Accordingly, when the case comes to court, a situation is presented where you have the detective's word against the defendant's word; and, as the higher courts again and again have cautioned the lower courts concerning the uncorroborated testimony of paid detectives, you can readily realize that, under the rule which we are bound to obey, namely, that the guilt of a person must be proven beyond a reasonable doubt, it is very difficult for even skilled detectives to obtain the necessary evidence.

The devices that have been presented in cases to us are so numerous and so skilful that it is enough for me to simply refer to them in a general way. A woman goes into one of these places attracted by an advertisement, that she may be relieved of her distress; and the advertiser who pretends to be a doctor will not see that woman unless she be alone, and he will see to it that if there is any person accompanying her, the companion shall be shut off from the interview in such a manner that there will be no chance of corroborating testimony. I might enlarge in this connection upon the difficulty of getting cases which are sufficiently strong to come within the well settled rules of the criminal law in respect of a conviction; it is enough upon this subject that I should simply suggest to you the difficulties.

Now, that being so, I tread upon what some might regard as dangerous ground, but I am not afraid of it. The worst agencies in New York to-day that help the man who sells either real or pretended abortion medicines, the man who sells either real or pretended medicines to cure this or that infirmity relating to the private life of a man or a woman are certain of the New York newspapers; for they make it possible, by their advertisements, to attract the unwary, the superstitious and the fearful. I shall read to you two or three cases of that kind, and that is the reason I have this bundle here (pointing); you need not be afraid of the bundle: I am not going to talk as much as there is in the bundle; but I brought it here, in order that I might quote with accuracy from the court records to show you how dangerous some of these advertisements are.

I do not know much about the technic of journalism, and I assume, from what I read in the newspapers, that the new school of journalism which has been founded by Columbia University is a forward step. I would suggest, if there is a real desire to raise the standard of newspaperism and journalism, that one of the first chairs be a chair on advertising; and let it be taught to the young men who are to be the future newspaper men of the country that the first duty of a great newspaper is to censor its medical advertisements and to see to it that no advertisement shall go into its columns advertising the nostrums of men and women who seek to lead astray unfortunate people, and who usually entrap women who find themselves in a sad position, and who, through their fear or their ignorance, are led on into unhappy situations by following up what these flagrant advertisements say.

You have no idea, I fear, as to the devices which these advertisements set forth so as to attract the unwary. Many of these persons who pose as fortune tellers and palmists, do so simply to cover the giving out of these medicines to which I have referred; and the seriousness of it is apparent when you realize that in some important newspapers in this greater city of ours these advertisements appear, while in the editorials we are commended to the highest moral life. If there are enough newspaper people in this city—and I believe there are—to courageously take up that proposition, and if there are enough men who are not afraid to talk about it, the time must come when such care will be exercised that no advertisement of this kind can be inserted in the newspapers and published by them and thereby lure on these ignorant people. Now let me read one or two of them to you.

Here was the case of Pauline Eulalia, who was found guilty on June 12, 1903, in the Court of Special Sessions for purporting to prescribe certain medicines to a woman. The advertise-

ment itself, in a great New York newspaper, is perfectly innocent—apparently!

CLAIRVOYANT,
PSYCHIC AND PALMIST.
$10.00 READING FOR $1.00.
PRINCESS EULALIA,
*Occult Wonder,*

*Your Life An Open Book To Her.*
*She Will Tell You What You Called For*
*—Anything You Want To Know.*
*Advice That Will Do You Good.*
*Always Consult the Best.*

So positive am I of my powers to tell the past, present and future, and exactly what you want to know, that I will make NO CHARGE! NO CHARGE! unless you obtain perfect satisfaction and find me superior to all other mediums, clairvoyants and palmists in this city.

THE FOLLOWING LIST SHOWS PURELY AND SIMPLY THAT EULALIA HAS BEEN CONSULTED BY THE MOST POPULAR AND MOST NOTED MEN OF THE WORLD, AND HER READING OF THEIR LIVES WAS PRONOUNCED MOST WONDERFUL: President McKinley, President Roosevelt, President Harrison, President Cleveland, Archbishop Ireland, Sen. Chauncey M. Depew, Sen. Mark Hanna, Admiral Geo. Dewey, Admiral Sampson, Emperor of Austria, Emperor of Germany, King of England, Queen Victoria, King of Italy, King of Portugal, King of Servia.

LOVE, COURTSHIP AND MARRIAGE.

Gives truthful revelations on all love affairs, troubles, marriages and by proper advice restores lost affection, reunites the separated, settles lovers' quarrels, tells you when and whom you will marry, and how to win the man or woman you love, and how to make your husband or wife true to you, and how to overpower all your enemies; gives full secret how to control and charm any one you love or meet.

CONCERNING BUSINESS AFFAIRS.

Gives never failing information regarding all kinds of business, financial difficulties, speculation, investments, insurance, changes, travels, health, sickness, love, divorce, marriage, lawsuits, separations, wills, deeds, mortgages, patents, claims, collections, what you are best adapted for.

HOURS: DAILY 10 TO 8, SUNDAY INCLUDED.

Mail $1. Send date of birth, lock of hair, six questions.

102 West 38th St., bet. Broadway and Sixth Av.

This is her prescription:

Dr. Martel's Pills, with the French flag:
3 in morning
5 at noon
7 before dinner
1 white one before retiring
before meals

Thursday afternoon:
2 ounces Creoline, douche three times a day.

Now you see what happens. You can imagine; but let me tell you from our practical experience. An ignorant woman gets hold of that advertisement; she is in trouble; she has not the courage, if you please, to consult with those with whom she should consult. She may be some poor servant girl alone in this country. She goes to this soothsayer or whatever she may be called. She goes upon the theory that she can foretell what is going to happen; and in the course of that conversation the soothsayer says: "Why, you seem troubled." Whereupon the victim says "Yes," and tells her her story. Then she pretends to give her some kind of medicine or another, which has one of two results: if it is a serious medicine, it may create serious physical damage; if it is not, the woman leaves there supposing that certain things can be accomplished—and the first thing you know, she is a suicide; whereas, if she went to a physician of repute, he would advise her as a father, give her encouragement and set her in the honest path.

Now, don't you see that the clientage which that woman gets would be next to impossible, were it not for the fact that there is placed in the hands of the great New York public at a few cents per day a piece of information so easily and so readily, that those who are unwise, ignorant, superstitious or unwary are led astray.

I shall refer now to another case. There was tried before us in April of this year the case of a man named Lewis Reeves, interesting from several standpoints—interesting because a point of law in reference to the first subject I discussed was raised, and interesting on the line of what I am now discussing. I will read you, as it appeared in evidence, the advertisement which was published by a great New York newspaper. This is the advertisement:

ARE YOU UNFORTUNATE? Women desiring to avoid monthly uncertainties and detention from social and other duties should send for EZU, the great French preventive; price $2, and worth it, because it can be depended upon. EZU COMPANY, 247 Sixth Ave., New York.

Counsel for the County Medical Society, Mr. Andrews, placed in evidence the following exhibit. This was not in the newspaper; this was a circular which followed upon the request of a correspondent, and which this man Reeves, otherwise Ezu, sent to his correspondent.

Why They All Do It
247 Sixth Avenue
Room 9
New York.

*Why Widows, Maids and Matrons* singly and collectively need no longer worry over irregularities is that Ezu effectually routs *any* case, no matter how stubborn or how long standing.

*As a Positive Preventative,* you don't depend on hope when using Ezu. There's no guesswork about it. It's *sure* as *Fate* and as harmless as dewdrops.

Stop using nauseating pills and drugs that only upset your stomachs. Ezu is a local treatment that eliminates any possibility of danger.

It's not a miracle, but simply an unlooked-for discovery by one of your own sex.

The price is $2.00 a package and money well spent, if you need it. Faithfully yours,
EZU COMPANY.

This man, as Mr. Andrews told me, and as I have had occasion to verify, evidently had gone so far as to take the daily announcements in the newspapers of marriages, and mail this vile circular to every person who he saw by the daily

papers was in the marriage list. As matter of fact, we know of a case where the notice was intercepted by a gentleman whose daughter had just been married and who was then on her wedding tour. The gentleman is a reputable merchant of this community, who was lucky enough to get this circular before it reached those for whom it was intended. Well, Ezu has just completed a term in the penitentiary.

But, you see there were several points in that case which confirm my suggestions to you to-night. In the first place, we should never have been limited to the minimum punishment in that case. In the second place, the publication of that advertisement was almost as criminal as the man himself. And in the third place, there was raised in this case this question, quite ingenious, as you will see: The evidence was that the detective went in and that this man Reeves, otherwise Ezu, asked the woman detective a certain number of questions; and being told by her of certain troubles that she claimed she was suffering under, prescribed this medicine. The counsel for the County Medical Society drew his complaint in such a way that it might have sounded either as a violation against this statute, or as a violation against the statute for giving medicines that were likely to produce an abortion. The defendant asked, and properly so, that the prosecution should elect, and of course, the other crime being a felony, the prosecution elected to try it as for a misdemeanor upon the theory that it was practising medicine unlawfully. Whereupon the defense said: Why, that is not practising medicine unlawfully; this man did not purport to practise medicine; he did not purport to cure anything at all; he purported to do something which, on its face, was not practising medicine; and his counsel moved for a dismissal of the complaint on that ground. Well, that is an argument that is not by any means a foolish argument, as every lawyer here will realize. The court denied his motion, upon the theory that his having examined the woman and purported to have discovered certain conditions and having given her something as a physician involved the unlawful practice of medicine. That case was taken before Judge Lacombe, of the United States Circuit Court, not upon the theory that there was no crime proved but upon the theory of a deprivation of liberty without due process of law, on the ground that the Court of Special Sessions was a court without a jury. Judge Lacombe dismissed his writ. Then he moved for a certificate of reasonable doubt before one of the judges of the Supreme Court, and the motion was denied, without opinion. The case was never taken up, and the man has served his term.

Now, so far as we in the court are concerned, and I believe, so far as the lawyers who make a specialty of these cases are concerned, it would have been a source of great satisfaction to us had that case gone to the Appellate Court, so that we might have a clear and definite opinion upon this subject. In bringing these cases under the statute as for a misdemeanor, you can readily see that some time or other there will be a pretty close question, unless the legislature defines what is meant by the practice of medicine.

There are many more cases I might relate to you and many more advertisements I might read, but let me say here, in conclusion, that I do hope the newspapers of New York will exercise a censorship of their own over their advertisements of this character. The ideal newspaper would be the one which, when it receives an advertisement from a palmist or a fortune teller or a person of some like occupation, would send one of its trusty men to investigate whether as matter of fact the person does legitimately engage in the reading of palms or the telling of fortunes. At present, of course, there is no law against those things. If a person will be gratified by having his palm read, I suppose there is no law that will prevent it; or if a person can foresee what United States Steel is going to do to-morrow by visiting a fortune teller, why I don't suppose that you who have been in Wall Street will have the slightest objection to it; but if there are these fortune-telling and palm reading and similar advertisements, surely the enlightened newspapers of this greater city have a morale which will compel them and each other to live up to the same high standards of conduct which they constantly demand of those of us who are merely laymen and not engaged in the publication of newspapers. Of course, there are a great many exceptions among newspapers which would not think of publishing such advertisements; and I am inclined to believe, from a letter which I have here and which Mr. Andrews has handed to me—from a newspaper man, whose name we are not permitted to mention—that even those newspapers which have been publishing these advertisements, will exercise a censorship, if their attention is strongly called to it and if they can be made to understand the serious difficulties that come from it—and certainly an advertisement so plain, so raw, as this Ezu advertisement doesn't require very much investigation or censorship.

I would read you here, finally—but I cannot lay my hands on it at the moment—the advertisement of a man named Sanford R. Christian, whom we sent to the penitentiary for six months. This was the advertisement of a man under the name of "Dr. and Mrs. Clark"—a long advertisement in one of the important daily papers, showing as nearly as vile phraseology could, that his advertisement was to induce persons to buy the medicines of the character which I have described. That man did a flourishing business, and it took months and months for the medical societies to get after him and finally bring him to the bar of justice. You can readily understand that he would not have done anywhere near that business, if it had not been that he had had the medium of a great newspaper which the people had a right to be-

lieve published honest and decent and trustworthy advertisemtns.

My three suggestions therefore are: first, define the practice of medicine; second, strike out the minimum punishment; and third, devise some method whereby all advertisements of this kind are eliminated from the papers that are published anywhere in the State of New York."

Discussion here followed, participated in by the following named gentlemen: Mr. Champe S. Andrews, Dr. Fischer, Mr. John B. Huber, Dr. Von Ramdohr, Judge Ommen, Mr. Andrews, Mr. Charles M. Demond, Mr. William R. Koehl, Mr. Alexander Campbell, Dr. Sieberg and Mr. Louis J. Vorhaus.

To these remarks Judge Mayer responded as follows:

"I shall refer only to a very few matters which have been suggested during the discussion. There is no doubt that Mr. Vorhaus, the last speaker, has made reference to a practical method —one which has, in fact, been used to some extent. But one of the greatest difficulties, as I think you saw from one of the advertisements I read, is that they bear nothing upon the face that is illegal—like the Eulalia advertisement; there is nothing in that advertisement prima facie illegal or that has any relation to the unlawful practice of medicine. Under the federal statute, I think all the lawyers here will agree that no prosecution will prevail, because not merely as matter of law, but as matter of fact, the character of that woman's business must have been brought home to the publisher or other responsible person

Now, if I have been understood as saying that this evil can be cured by legislation, I failed to express myself clearly. Somebody here in this discussion this evening struck the keynote. My sole purpose to-night was simply to relate some facts which should be called to your attention; but the remedy is a slow one. It will take a long while, but if successful, it will be a permanent remedy—the gradual uplifting of public opinion and of the opinion and conduct of the men, whoever they may be, who are responsible for these publications. Somebody here remarked —I think it was Mr. Demond—that twenty years ago, he used to read very bad advertisements in the newspapers, and that nowadays he doesn't see so many. Well, I think that is true; I think that the columns of the newspapers to-day are ever so much better than they were in this respect; and you and I know of newspapers daily published in the City of New York which do not permit any such advertisements in their advertising columns. There is newspaper after newspaper in this greater city which would not for one moment permit such advertisements. Now, if the men who are responsible for the editing and publishing of those decent newspapers will assist in what seems to all of us the laudable purpose of driving out that class of advertisements from all newspapers, I say that it is simply, as all such matters are, a matter of time and development until this class of advertising will be driven out of the newspapers. As to Mr. Koehl, he was entirely too fearful; these advertisements form only part of the income of some newspapers; doubtless they add comfortably to that income, and yet after all the greatest income of the newspapers is obtained from the legitimate advertisements, those of merchants and others who have legitimate goods to sell, and of persons who advertise public entertainments and the like. I still believe that if the men, most of whom are men of considerable importance, and of excellent character—if the men on these newspapers who are responsible for the publication of these advertisements are so constantly driven at with this single question that I am about to put, the time must come, by the resolutions of societies of this kind, when this thing will be minimized. All you need do is to ask the man who is responsible for those advertisements, if he will please take one of them home to his young daughter and have her read it; and if he says yes, let him publish it, but if he says no, there is some show that you are reaching him in some sort of way.

On the contrary, then, I do not think you can stop the trouble by legislation. I think you can only stop it by courageous, constant efforts to get hold of these men by appealing to their best sentiment.

As to the question of the minimum of punishment. I do not want to be misunderstood about that. I should not place the maximum punishment any higher than it is to-day, because, as the men who have practised in the criminal courts will tell you, the minute you make the punishment too drastic, you defeat the very purpose of the statute. Leave the punishment where it is to-day, but strike out the provision limiting the courts to the minimum punishment.

On the question, finally, of the definition of the practice of medicine. While I want to be clearly understood as not expressing any opinion on certain questions, and while not agreeing or disagreeing with Dr. Fischer and his suggestion, I do think, as a matter of practical affairs, that the final definition will be best obtained by gradual steps, and that you cannot expect to accomplish in one legislature or in one year what may be to you the clearest and best definition of the practice of medicine. I have thrown out these suggestions to-night merely for the purpose of showing you how these questions are looked at by those of us who are officially in contact with them."

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**Leucemic Infiltration of the Accessory Sinuses.**—An interesting condition of the mucous membrane of the accessory sinuses in leucemia is described by K. M. MENZEL (Zeitsch. f. klin. Med., Vol. 51, Nos. 3 and 4). Instead of a smooth lining, the sphenoidal sinus was clothed with a white membrane, presenting some 50 to 60 distinct protuberances between which there were extensive hemorrhages. All signs of inflammation were absent. This condition is of importance, as it may explain the uncontrollable epistaxis of leucemia.

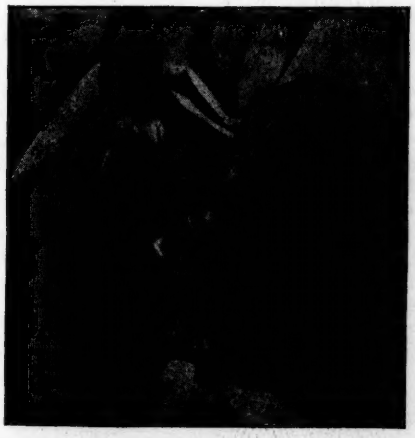
## A NEW METHOD FOR PERFORMING INTESTINAL ANASTOMOSIS.

BY JOHN W. KEEFE, M.D.,
OF PROVIDENCE, R. I.;
ATTENDING SURGEON TO THE RHODE ISLAND AND ST. JOSEPH'S HOSPITALS.

MUCH has been written upon the subject of intestinal anastomosis and at the present time there are eighty or more methods of uniting the ends of the resected intestine. It is a fact that more sutures have been devised for this than for any other branch of the entire field of surgery. Remarkable ingenuity has been shown by surgeons in the various methods employed, both in the insertion of the sutures and in the use of appliances to aid in the operation.

In the method I describe the Lembert interrupted and the Cushing right angle suture are to be made use of. In the majority of methods described these sutures seemed to be very favorably looked upon. I also use another suture a modification of the Lembert interrupted; which has all the advantages of the latter. It not only

Fig. 1.

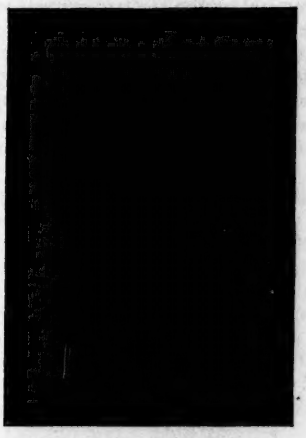


Intestine to be excised drawn through abdominal wound.

holds the peritoneal and muscular coats of the intestine in firm apposition at the mesenteric border but also serves to unite the mesentery at this point where leakage and infection very frequently occur. I learned from my experiments upon the dog that with the interrupted and modified Lembert sutures there is a very rapid union of the serous surfaces and with the sutures properly inserted these peritoneal surfaces are protected and firmly supported by the strong intestinal walls.

To sever the diseased tract of intestine and to separate the mesentery from it I use the Downes' electrothermic angiotribe. Among the many advantages this instrument possesses, not only in this operation, but in others, are, immediate hemostasis; perfect asepsis and cleanliness throughout the entire operation; an immunity from soiling with pus, blood and feces; the dispensing with the ligature; no secondary hemorrhage from slipping of ligatures or subsequent infection from the same, since there is not the puckering and con-

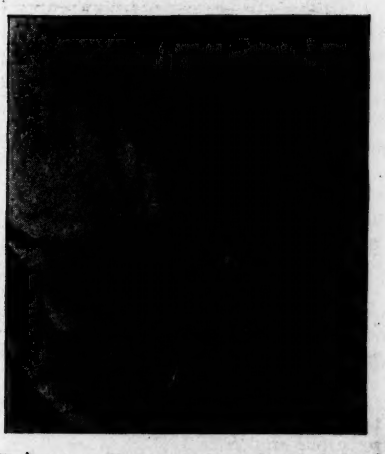
Fig. 2.



Electrothermic angiotribe and guard clamp applied to intestine at first point of section.

striction of the tissue which the ligature causes. With the angiotribe, in this particular operation we encounter no difficulty from a distended intestine, as is frequently the case when we use other appliances, nor do we need fear the foreign body in a gut with a small lumen. The angiotribe is an instrument readily applied, easily understood and a profound knowledge of electricity is not essen-

Fig. 3.



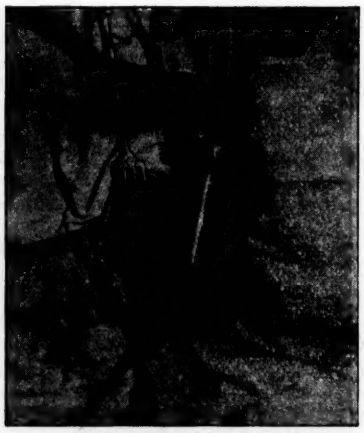
Small clamp applied to desiccated strip left after removal of electrothermic angiotribe and angiotribe applied to second point of section of the intestine.

tial in its manipulation. For these reasons it is invaluable in modern surgery and indispensable to the surgeon of to-day.

The technic of the operation is as follows:

After having drawn through the wound the tract of intestine to be excised, clamp the intestine at a right angle to its long axis with the three-eighth-inch blade of the electro thermic angiotribe and apply a current of 60 ampères for one minute. The compression of the clamp together with the heat generated by the electric current will produce complete hemostasis and occlusion of the gut with no extrusion of feces; therefore asepsis. Remove the angiotribe, and clamp the desiccated strip made by this instrument upon the intestine with a straight artery forcep as a precautionary measure to prevent leakage into the abdominal cavity, should the angiotribe have failed to completely close the lumen of the gut. In like manner repeat this process at the other point on the intestine where it is to be severed. After having done this sever the intestine by cutting through these two desiccated strips. Now the mesentery attached to this partially excised portion of the intestine is to be separated from it. Clamp this mesentery with the three-eighths-inch blade of the angiotribe and in as many sections as is necessary apply a current of 60 ampères for forty-five seconds each. The number of applications of the angiotribe on the mesentery depends of course upon the length of intestine to be excised. The desiccated strip made by the angiotribe on the mesentery will be found amply sufficient to prevent all bleeding, and further hemostasis with clamps or ligatures is needless. Separate the mesentery from the diseased structure by cutting through the path made by the angiotribe in the mesentery. Then remove the excised portion of intestine.

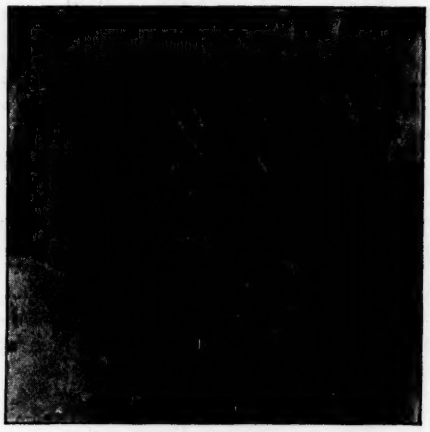
Fig. 4.



Electrothermic angiotribe applied to mesentery of portion of intestine requiring removal.

The desiccated ends are now to be approximated and their peritoneal surfaces united with a modified and an interrupted Lembert suture. The modified suture is inserted first and is passed through peritoneal, muscular and submucous coats of intestine one-eighth of an inch from desiccated strip near the mesenteric border of the intestine. Carry it out through the peritoneal coat on this side of the anastomosis and pass the needle through both layers of peritoneum where the peritoneum goes to form the mesentery.

Fig. 5.



Removal of portion to be excised, by cutting through desiccated strips with scissors.

Then carry the suture across and through both layers of the mesentery at a corresponding place on the other side of intended union. Now carry the needle back and through the mesentery again at the same point where we entered it the first time, then across again for the second time, through the same point where the mesentery was entered on this side of the anastomosis. In other words the stitch has been looped in the mesentery to strengthen this weak spot. This stitch is completed by passing the needle through peritoneal, muscular and submucous coats on this side of the union and out through the peritoneal coat of intestine.

The interrupted Lembert suture is then inserted at opposite poles on the intestine to the stitch previously made. This suture is passed on one side of the wound one-eighth of an inch from the desiccated strip through the peritoneal, muscular and submucous coats and out again through the peritoneal coat on the same side of the desiccated strip. It is then carried across the two desiccated strips and inserted on this side of the proposed union in the same manner as on the other side. The main point to be borne in mind when placing these two Lembert sutures and the Cushing suture also is not to penetrate the mucous coat of the intestine but to have it enter the submucous coat that we may rely on the tough, fibrous character of this layer. With these two stitches in place we have the ends of the intestine approximated. With the two ends of the intestine in apposition the desiccated strip of mesentery is left in the form of a loop. I unite these edges of mesentery with a Cushing suture, placing the stitches one-eighth of an inch from the

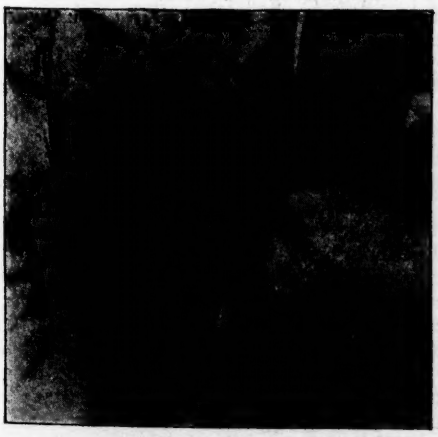
desiccated strip made by the application of the angiotribe.

To further unite the peritoneal surfaces and walls of the intestine I now use a Cushing right angle suture bearing in mind also not to penetrate the mucous coat. Begin the suture one-eighth of an inch from the desiccated strip on one side of the anastomosis and pass the needle through peritoneal, muscular and submucous coats of the intestine and out through serous coat on one side of union then carry it across the two desiccated strips to the other side at right angles to this stitch through the same coats of intestine as on the other side. On this same side of the desiccated strips make a stitch at right angles to this horizontal stitch, then carry the needle across the desiccated strips again at right angles to this short stitch, parallel to the horizontal one and through the intestine as before. Continue the suture in this manner until the entire circumference of the gut is encircled with it. The suture is then tied but before doing so the forceps used to clamp the intestine are removed.

Now invaginate the intestine with the finger and use sufficient force to make a lumen through the desiccated strip. Press gases and feces through the anastomosed ends to see that there is no leakage. Drop intestine back and close abdominal wound in the usual way.

The advantages of this method are immediate hemostasis; perfect asepsis, since there is no soiling with feces; no intestinal obstruction; no eversion of mucous membrane; little danger of cicatricial stenosis; a firm, strong union and a rapid operation.

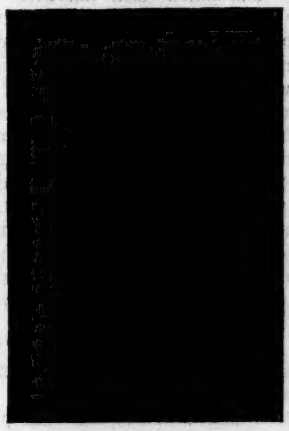
Fig. 6.



Modified Lembert and right angle Cushing sutures in place.

I have performed eight operations upon dogs with a view of developing an aseptic method of making resections of the stomach and intestine, by the aid of the Downes electrothermic angiotribe. In one instance I removed the stomach and united the esophagus with the duodenum. The other seven operations consisted in resections of several inches of the ileum. We had in the case of gastrectomy some leakage of the stomach contents through the desiccated strips left upon removal of the angiotribe; owing I believe to the thickness of the stomach walls.

Fig. 7.



Anastomosis complete.

I am convinced that a larger electrothermic angiotribe with more crushing power would be of greater service in operations upon the stomach, than the instruments now in use. The angiotribe with the three-eighths-inch blade is well adapted for intestinal resections.

I performed my first operation November 2, 1902, and purposely allowed the ends of the intestine, remaining after resection with the angiotribe, to remain sealed by the desiccated strips alone; uniting the intestine by a lateral anastomosis with a Murphy button. This dog died in thirty-eight hours and the post-mortem examination showed a general peritonitis with extravasation of feces into the abdominal cavity, through the resected ends of the intestine, the desiccated ends having sloughed. There was good union and no leakage about the site of the lateral anastomosis with the Murphy button. This case proves the value of a purse string over the stump subsequent to the removal of the appendix with the electrothermic angiotribe.

An end-to-end anastomosis with silk Lembert sutures, following resection of the gut with the angiotribe, was made on the second dog. The desiccated strips sealing the resected ends of the intestine were allowed to remain closed after the insertion of a Cushing suture. The bowels moved thirty-six hours after the operation, showing that sloughing of the desiccated strips had taken place.

However, I believe that to complete the lumen of the intestine at the site of union, by invaginating the intestine with the finger and thus destroy the sealing by the desiccated strip, is desirable and should be done after the introduction of the Cushing suture.

One of the dogs had portions of the ileum resected on two occasions making a good recovery each time. He was intentionally killed four months after the first and one month subsequent to the last operation. The autopsy showed the mucous membrane to be perfectly smooth at the site of the operation wounds in the intestine, and no narrowing of its caliber. Another dog was intentionally killed fifty-four days after resection of a portion of the ileum. The autopsy revealed perfect union at the site of the operation. There were no adhesions and on opening the intestine and viewing the mucous membrane it was difficult to locate the line of union. Here again we found no narrowing of the caliber of the intestine.

I had an opportunity to carry out this method in man last March. The patient was suffering from intestinal obstruction and peritonitis due to a gangrenous, incarcerated, scrotal hernia. He had been ill some time and was in a poor general condition. I performed the operation with the aid of cocaine, removing 14 inches of the ileum with the aid of the Downes electrothermic angiotribe; uniting the ends with a modified Lembert and a Cushing suture.

The man made scarcely any complaint while the intestine was being resected. The cocaine was injected into the skin and ileohypogastric and ileo-inguinal nerves. The patient died four and one-half days following the operation from a continuance of the peritonitis present at the time of the operation.

A post-mortem examination showed a general peritonitis, with good union at the site of the intestinal anastomosis. No gas or intestinal contents could be pressed through the bond of union.

The excision of the portion of the intestine was performed very easily and rapidly with no extrusion of feces from the bowel.

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**Another Laboratory Plague Death.**—The chief of the bacteriological laboratory of the Imperial Institute of Experimental Medicine died of the plague on January 20. He became ill on January 16, after experimenting with living plague cultures, and repeated injections of anti-plague serum were unavailing.

## A FATAL CASE OF CHOREA COMPLICATED BY ENDOCARDITIS, PERICARDITIS AND NEPHRITIS.*


BY AUGUSTUS A. ESHNER, M.D.,

OF PHILADELPHIA:

PROFESSOR OF CLINICAL MEDICINE IN THE PHILADELPHIA POLYCLINIC; PHYSICIAN TO THE PHILADELPHIA HOSPITAL; ASSISTANT PHYSICIAN TO THE PHILADELPHIA ORTHOPEDIC HOSPITAL AND INFIRMARY FOR NERVOUS DISEASES; PHYSICIAN TO THE HOSPITAL FOR DISEASES OF THE LUNGS AT CHESTNUT HILL; ETC.


THE report of a single clinical case is justifiable only if it teach some important truth or establish some useful principle. This requirement is, I believe, fulfilled by the history to be related, inasmuch as it has distinct bearing upon the etiology, the pathology and the treatment of a not uncommon disorder.

There was brought to me on December 29, 1902, the ten-year old daughter of a neurotic father, who within twenty-four hours had been observed to exhibit twitching of the fingers of the right hand, then of the fingers of the left hand, and next of the right foot. There was also slight pain on movement on the palmar aspect of the right wrist-joint. For a month the child had been thought to have a "bad stomach," suffering from impairment of appetite and eating but little. She slept well and she had not been considered "nervous," though she had never been robust. She had had sore throat, perhaps diphtheria, three years previously and measles, whooping cough, chickenpox and mumps in early childhood. One maternal aunt and the paternal grandmother were said to be rheumatic, and another maternal aunt and two paternal cousins had had chorea.

On examination the heart was found overacting and a blowing systolic murmur was audible at the apex. The temperature was 100.3° F. Believing the case to be one of beginning chorea I directed five drops of Fowler's solution of potassium arsenite to be given three times a day, and in view of the possibility of a rheumatic relationship I also prescribed five grains each of sodium salicylate and sodium bromide likewise to be taken thrice daily. I was not able to decide whether the endocardial murmur was recent or old, although by reason of its softness and of the overaction of the heart, together with the elevation of temperature, I suspected the former. Accordingly I had the child put to bed. The temperature continued elevated, reaching as high as 102° F.; the pulse remained frequent, ranging about 120; the heart-murmur persisted; and slight twitching appeared in the muscles of the face. Pallor was marked. On January 12 the urine was noticed to be turbid and brownish, and examination disclosed the presence of albumin, together with leucocytes in moderate number. The specific gravity was 1.020, the reaction was acid, and there was no response to Fehling's alkaline-copper test for sugar. The mixture of salicylate and bromide had been superseded by

* Read before the Medical Society of the State of Pennsylvania at York, Sept. 23, 1903.

solution of potassium citrate and tincture of iron chloride twenty drops, each, thrice daily. On January 17 hyaline, granular and epithelial tube-casts in large number were discovered in the urine in addition to the albumin, and a loud to-and-fro friction murmur was audible over the body and at the base of the heart. A small cantharidal plaster was applied to the precordium and for the iron and the potassium citrate tincture of digitalis 7½ minims with 2 fluidrams of Basham's mixture of iron and ammonium acetate were substituted. Fearing that the arsenic might increase the existing disturbance in the kidneys the Fowler's solution was withdrawn.

The patient continued to do well and exhibited exceedingly little movement until January 18, when she was greatly frightened in consequence of the burning out of an electric circuit in the room in which she lay. Shortly after this accident she became restless and jerky, and speech, which previously had been unaffected, was greatly interfered with, and the peevishness, captiousness, obstinacy and restiveness present were increased. By January 21 the child was dull and soporose, yet irritable and cross. Sleep was poor and restless. About two pints of urine were being passed in the twenty-four hours, and albumin and tube-casts were still present. The heart continued rapid and the rough to-and-fro murmur over the body of this viscus persisted. The temperature fluctuated between 101° and 102° F. For several days the condition of the patient appeared greatly aggravated. She was exceedingly restless, crying a good deal and with much jerking and disturbed sleep. The administration of Fowler's solution was now resumed and sodium bromide was given in doses of five grains thrice daily. A change for the better set in. The patient began to sleep a little more and became more tractable; the rough heart-murmur grew less marked, although the area of cardiac percussion-dulness was increased and the apex-beat was outside the left nipple-line.

On January 27 the patient was again able to speak a little; she cried less; the heart-murmurs were less pronounced; the twitching was less marked; the urine was growing less turbid, the amount of albumin present and also the number of tube-casts less. In a short while only the soft systolic murmur heard at the first examination was audible at the apex. The pulse-frequency slowly but steadily declined. On February 1 the temperature had reached 99° F.; appetite was returning; the bowels were regular; sleep was sound and refreshing; twitching was less; the power of speech was increasing and speech was more distinct and less jerky. The urine still contained tube-casts, though in smaller number, and only a trace of albumin. From February 5 the presence of albumin in the urine could no longer be detected either by heat or nitric-acid contact; though casts persisted, but in progressively diminishing number. The patient now began to sit up, but she was pallid and weak, and speech, though greatly improved, was not quite perfect. Twitching had almost entirely ceased. Improvement continued steadily and the patient became somewhat stronger. On February 7 she walked a few steps, not without difficulty, and she spoke more and better. The action of the heart was rhythmic, though rapid, and the soft systolic murmur at the apex was still audible; the pulse counted 108 in the minute. Pallor and weakness remained marked features, the former assuming an extraordinary ashen character, and the latter becoming extreme. Puffiness of the face appeared on February 15 and shortly afterward the legs became swollen. The dose of Fowler's solution was diminished, while the digitalis and Basham's mixture were continued. Dyspnea now developed and became gradually more marked, and death resulted on February 18, apparently as a result of heart-failure, due, I suppose, to myocarditis. No autopsy was held.

*Summary:* We have here a case of chorea in a child of neurotic heredity, with slight rheumatoid symptoms and signs of endocarditis, in which striking relief was afforded by the administration of appropriate remedies, but in which a marked exacerbation of the choreic manifestations followed upon a severe fright, and in the sequence of which there developed pericarditis, nephritis and myocarditis, and, finally, a grave anemia, with a fatal termination.

The specially interesting features in this case are the association with chorea of rheumatoid symptoms, endocarditis, pericarditis and nephritis, the control of the spasmodic movements by arsenic and the intensification of the symptoms in the sequence of emotional disturbance (fright), and the fatal termination. The frequent coincidence or sequence of chorea and muscular and articular pain and swelling is a well-recognized fact, occurring in about one-fifth of the cases. By some chorea is looked upon merely as a manifestation of rheumatism. Endocarditis is a common complication of chorea, having been observed in 62 among 73 fatal cases collected by Osler,* who makes the statement that *"there is no known disease in which endocarditis is so constantly found, post mortem, as chorea;* it is exceptional to find the heart healthy." Pericarditis is less common, having been present in 19 of the cases, while nephritis is still less common, although Osler expresses the opinion that it is probably not so rare as has been thought. Inasmuch as chorea may be safely looked upon as an infectious disease, or at least as a manifestation of some infectious process, it is not difficult to understand that such complications as those mentioned should occur, perhaps as a varied result of a common cause. The same interpretation may be applicable to articular symptoms when these are present. How emotional disturbances act in the etiology of chorea, as in that of some other diseases, as for instance exophthalmic goiter, is beyond our present knowledge, although it may be surmised that it gives rise to

* Osler: "On Chorea and Choreiform Affections," P. Blakiston's Son & Co., 1894.

certain metabolic disturbances, probably through the intermediation of the nervous system. It is a popular notion that fright is a common exciting cause of chorea, but this is only in part sustained by the facts in the case. At any rate, while fright played no part in the determination of the attack in the present case the symptoms were greatly aggravated during a quiescent period in the sequence of fright, although this was coincident also with the development of symptoms of acute nephritis and the withdrawal of arsenic. The condition of the patient at this time was so grave, the apathy was so profound, the prostration so great, the movements so violent, that I feared the patient had become uremic and would be overwhelmed by the intoxication. On resuming administration of the arsenic, improvement at once set in and although somewhat slow, it was distinct and steady until the symptoms of heart-failure, which I attributed to myocarditis, and profound anemia appeared and led to a fatal issue. We have here additional evidence of the specific utility of this valuable drug in the treatment of chorea.

I have in a previous communication (MEDICAL NEWS, February 7, 1903) reported a fatal case of polyarthritis complicated by choreiform symptoms and vegetative endocarditis occurring in a young man, seventeen years old, observed in my service at the Philadelphia Hospital.

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## NOTES ON THE WIDAL REACTION: (1) THE QUESTION OF DILUTION; (2) THE INFLUENCE OF JAUNDICE.*

BY E. LIBMAN, M.D.,
OF NEW YORK;
ASSISTANT PATHOLOGIST, MT. SINAI HOSPITAL.

THE method used in making the tests upon which this paper is based was described in full in the Mt. Sinai Hospital Reports, Vol. I, and in the MEDICAL NEWS, March 29, 1902. As a rule, dried blood was used for the tests, but in quite a number of cases the tests were also made with serum. In the larger number of the cases of jaundice to which I shall later refer, serum was used. For the general practitioner the use of the dried blood is undoubtedly much more practical than the use of serum. We have found that the dried blood, if properly sent to the laboratory, gives practically the same results as serum. The drops used are best made a trifle larger than the head of a pin. Should larger drops be used care must be taken that the specimen be dried before the blood coagulates. In a large number of experiments we found that the blood gave a better reaction after three or four hours than when used just after drawing—even after twenty-four hours the dried blood gives good results.

Until the spring of 1902 we were accustomed to make our reactions in the dilution of 1 to 20 only, but as it was claimed by many authorities that reactions ought to be made in the dilution of 1 to 50, we made it a rule at that time to make our reactions in the dilution of 1 to 20 and 1 to 50 (time-limit thirty minutes and one hour respectively).

Previous to the spring of 1902 and since that time, we have examined the blood in 1,500 cases of fever. Of these, 550 were cases of typhoid fever. In the 950 cases which were not typhoid fever, a Widal reaction was never reported positive even in a dilution of 1 to 20. This certainly points to the reliability of a reaction in a dilution of 1 to 20 when interpreted according to the method of considering only complete reactions as being positive.

We believe that it is advisable, if possible, to make such a standard in the judgment of reactions, that the report of a positive agglutination reaction to the physician should be equivalent to labeling his case as one of typhoid. The practising physician is not interested in a report saying his patient has or has not an agglutination reaction—he wants to know whether his patient has typhoid fever or not.

We will admit for the sake of argument that among the 550 cases of typhoid fever there may have been some cases of paracolon infection, and that the presence of the agglutination reaction in a dilution of 1 to 20 may simply have been a group-agglutination; but, if such a mistake does occur, it is not a serious one, for to the clinician a case of paratyphoid fever is to be considered and handled, at least for the present, as one of typhoid fever.

The question arises, why do we continue making reactions in a dilution of 1 to 50 if we have had such reliable results with a 1 to 20 dilution?

We have been surprised to find, in some instances, a positive result in a dilution of 1 to 50 when the reaction was negative or not clearly positive in a dilution of 1 to 20. There are, we believe, at least two explanations of what seems so anomalous a condition. In some instances at least, it is due to the fact that in a dilution of 1 to 20 the lytic action of the serum is so marked that one cannot obtain a clear picture. In some cases the explanation lies in the existence of bodies known as proagglutinoids. According to Shiga the proagglutinoids are bodies which are developed from agglutins through extraneous influences; they possess a greater affinity for the bacilli than the unchanged agglutins; they have lost the group (agglutinophore) which is the carrier of the peculiar agglutinating power, but have retained the other group (haptophore) upon which depends their attachment to the bacteria. Shiga[1] in a very interesting paper on this subject, after referring to the previous observations of Bail, Eisenberg and Falk, gives an account of his own experiments which prove the existence of such bodies. A short account of these experiments will, I think, be of interest here. By heat-

* Read before the Section on General Medicine, New York Academy of Medicine, November 17, 1903.

ing dysentery immune serum to 60° C. for an hour, or by shaking it with chloroform or exposing it to sunlight for a number of days, he obtained a serum which would agglutinate dysentery bacilli in high dilutions and not in low, whereas previously it had agglutinated in low dilutions as markedly, or even more markedly than in high dilutions. He applied the term "proagglutinoid zone" to those dilutions in which the reaction disappeared. He not only succeeded in producing a proagglutinoid zone with typhoid immune serum by heating it for four hours at 60° C., but he could, by the prolonged addition of chloroform to dysentery serum, almost completely change the agglutinins into proagglutinoids so that a reaction could not be obtained in any dilution. Further experiments proved that the proagglutinoids were attached to the bacteria and that the proagglutinoid zone could be made to disappear if enough bacteria were added to a mixture of non-agglutinated bacteria and a serum containing proagglutinoids.

Notwithstanding the fact that a 1 to 50 dilution will occasionally give better results than a 1 to 20, it is necessary to make the 1 to 20 dilution, because this is frequently positive before the 1 to 50 dilution becomes positive. Among 165 cases of typhoid fever we found a coincident positive reaction in 1 to 20 and in 1 to 50 in 127 cases. In 12 cases the reaction was positive in a dilution of 1 to 20 two days before it was positive in 1 to 50. In some instances even sixteen days elapsed before the reaction became positive at 1 to 50, and in 8 cases which were positive in a dilution of 1 to 20 there was no reaction in a dilution of 1 to 50 during the time of observation of the patients in the hospital.

From all these data it is evident that it is essential in performing the agglutination test to use dilutions of 1 to 20 *and* 1 to 50. It is even possible that the 1 to 100 or higher dilutions might be positive when the lower ones are negative. On this point we have thus far had no experience.*

The other point upon which I wish to dwell is the question of whether or not jaundice *per se* can cause a positive Widal reaction. On this subject quite some observations have been made, which we shall detail before we refer to our experiences.

Honl and Eisenberg,[3] and Heller[3] found that icteric serum was possessed of a certain amount of agglutinating power. Greenbaum[4] found a positive reaction in a dilution of 1 to 16 in cases of jaundice. The most extensive observations and experiments, however, were made by Koehler.[5] Koehler used for his experiments sugar-bouillon cultures of the typhoid bacillus; his time-limit was two hours and he considered clumps of four to be significant of the presence of agglutination. In 10 cases of disease of the liver, of which eight were icteric, he found an agglutination reaction present in six. The highest dilution in which he obtained the reaction was 1 to 40; very rarely 1 to 50, and once it was only 1 to 10. His first set of experiments was made with several varieties of bile. In the bile of dogs in which the common bile-duct had been ligated, he found a decided agglutinating power (even up to 1 to 160). Rabbit's bile was possessed of very slight agglutinating power. Human bile obtained at autopsy occasionally showed a distinct agglutinating power (up to 1 to 80). He had no opportunity of testing bile obtained intra vitam. In the bile of typhoid patients post mortem he found no increase in agglutinating power over the bile in other diseases.

In attempting to ascertain what constituent of the bile was responsible for the presence of the agglutinating power, he tested taurochol, glycochol, bilirubin, biliverdin, cholalic acid, glycocholic acid, cholesterin and sodium taurocholate, but found that none of these was possessed of any agglutinating power. Solutions of taurocholic acid, however, gave some positive results (up to 1 to 60). He obtained no result with the serum of rabbits into which he had injected taurocholic acid, but did obtain some positive results in dogs. The reaction generally appeared two or three days after the injection and lasted several days. He obtained results even with some samples of taurocholic acid which in themselves were possessed of no agglutinating power. The serum of dogs in which the bile-ducts had been tied off gave a slight agglutination reaction which disappeared after a communication was established between the gall-bladder and the intestine. On later injecting taurocholic acid into such animals, an agglutination reaction could again be obtained varying in strength from 1 to 40 to 1 to 50. The results in these experiments were not constant.

These experiments of Koehler's are of great interest in showing that taurocholic acid and bile cause a certain amount of agglutination, but they are not significant practically because in making diagnoses by means of the Widal test we deal only with complete reactions. This remark also holds true of his observations on the presence of an agglutinating power in the serum of patients with jaundice. For practical purposes it is inadvisable to use sugar-bouillon cultures, a time-limit of two hours is too long and we shall see that later observations on the whole are contradictory.

Sailer[6] in three cases of intense jaundice obtained no reactions. Zupnik[7] in seven cases of jaundice (two cases of cholelithiasis, one case of cholecystitis and four cases of Weil's disease) found "a more or less positive reaction." In two other cases of Weil's disease the reaction was negative. In one case of carcinoma of the

* Since writing the above we have encountered one case of typhoid fever in which the reaction was absolutely complete in a dilution (approximate) of 1 to 400 in one hour, and negative at all dilutions below and above. After four hours, there was slight clumping at 1 to 200, and stoppage of motility at 1 to 800; 1 to 1,600 was absolutely negative. This case was a typical one in the practice of Dr. Albert Kohn. It would seem necessary, therefore, in cases suspected of being typhoid fever, to make the test in a large number of dilutions.

liver without fever he found a positive reaction. He used both macroscopic and microscopic reactions in a dilution of 1 to 40 with a time-limit of eight hours. It is unfortunate that he does not state what he considers to be a positive reaction, and the time-limit is too long.

Eckhardt[8] describes two cases with a clinical picture of Weil's disease of one month's duration in which the reaction was positive at times in a dilution of 1 to 1,000. In these cases the agglutination reaction persisted even after the jaundice had disappeared. In eight cases of jaundice he obtained a positive reaction in a dilution of 1 to 100 in two hours and in one case up to 1 to 1,000. The bile obtained at autopsy and the bile obtained from biliary fistulæ was devoid of agglutinating power. He cites one case of jaundice in which the bile gave no reaction but the blood gave a positive reaction in a dilution of 1 to 100. There was no history of any previous typhoid infection. We will cite a case later which demonstrates that such a condition of affairs can exist in typhoid fever. He also unfortunately does not state what he considers to be a positive reaction. He is of the belief that his cases were probably cases of typhoid fever and bases his belief mainly on the persistence of the reaction after the disappearance of the jaundice. No further bacteriological examinations were made in the cases. We are also inclined to consider that his cases were typhoid fever, but in view of the fact that he obtained positive reactions so often in other cases of jaundice, we believe that less stress should be laid upon the significance of the reactions. In any event, the cases do not prove that jaundice *per se* can cause a positive Widal reaction.

Langstein and Meerwein[9] also made observations in a number of cases of jaundice. Their first case was one of obstruction of the common bile-duct by gall-stones with adhesions about the gall-bladder. The bile was possessed of no agglutinating power. The blood gave a positive reaction in a dilution of 1 to 100 in twelve hours. Later when some bile appeared in the stools they succeeded in obtaining only a partial reaction in a dilution of 1 to 20 in two hours. In two other cases of febrile jaundice in which the stools were not entirely acholic, the serum did not agglutinate the typhoid bacillus even in a dilution of 1 to 10; and in a fourth case of metastatic carcinoma of the liver there was an entire absence of any agglutination reaction.

Their first case is, however, not conclusive for two reasons. In the first place a time-limit of twelve hours is too long for a reaction in a dilution of 1 to 100, and secondly the question of whether the cholelithiasis could not have been due to typhoid infection is entirely ignored. The conclusion which has been drawn from these two cases that the serum of an icteric patient with cholangitis gives a positive reaction, whereas that from an icteric patient without cholangitis does not, is hardly warranted.

Joachim[10] describes two cases. The first was a case of febrile jaundice in which at the post-mortem examination purulent cholangitis and a thrombosis of the portal vein were found. In this case the blood gave a positive reaction with the typhoid bacillus in a dilution of 1 to 40 in two hours and 1 to 80 in fifteen hours (macroscopic and microscopic tests). From the spleen a paracolon bacillus was cultivated, which was agglutinated by the serum in a dilution of 1 to 40 in two hours. In the second case the jaundice was due to a carcinoma at the papilla of Vater, obstructing the common duct. The blood obtained from the cadaver sixteen hours after death(!) agglutinated the typhoid bacillus in a dilution of 1 to 10 in fifteen hours.

These observations also are of no great significance. In the first place the time-limit was too long for the strength of the reactions. The author does not state what he considers to be a positive reaction; and again, the reaction may have been a group-agglutination reaction. He believed that he was able to confirm the observation of Langstein and Meerwein that it is particularly in cases of cholangitis with jaundice that the blood gives a positive Widal reaction.

The observations of Koenigstein[11] are, we believe, more conclusive than any of those already mentioned. His reactions were made in a dilution of 1 to 10, 1 to 50 and 1 to 100 and were observed for a period of twenty-four hours. With bile he obtained only false reactions due to mucus, crystals and cellular elements. He could eliminate such reactions by filtering the bile. He examined 21 specimens of bile obtained at autopsy wth negative results. The bile of rabbits and oxen also gave negative results. In two dogs in which he had produced jaundice by the subcutaneous injection of a hemolytic poison, he obtained a reaction in only 1 to 10 in one, and no reaction in the other. Among 11 cases of jaundice, seven gave no reaction whatsoever; the other four gave good reactions in a dilution of 1 to 10 and slight reactions in 1 to 50. He believes that in some cases such reactions may be group-agglutinations. He repeated Koehler's experiment with taurocholic acid, but could not substantiate his findings. When one knows that the writer considers an agglutination reaction to consist of agglutination with "incomplete paralysis of the bacteria" his negative results are doubly convincing.

Our own observations consist of tests made with bile and with the serum of jaundiced patients. Ten samples of bile were examined. These specimens were either normal bile or bile from cases of typhoid fever, chronic pancreatitis or cholelithiasis. In no instance could we get a positive Widal reaction. With some there was slight clumping, but in others there was absolutely no effect on the bacilli even in a dilution of 1 to 1. The sera of 35 cases of jaundice (exclusive of four cases to be described later) were tested. These cases included cases of appendicitis, malignant endocarditis, gall-stones with and with-

out cholecystitis, tumors of the liver and duodenum, diseases of the pancreas, a case of Weil's disease, two cases of acute yellow atrophy, a case of general miliary tuberculosis, some cases of catarrhal icterus, hypertrophic cirrhosis, one case of liver abscess with jaundice and cases of jaundice due to septic conditions. In not one of these cases was the serum possessed of any more effect on the bacteria than we often find in normal sera. Not one of them gave a reaction which was at all doubtful.

In only four cases in our experience have we met with a positive Widal reaction in patients with jaundice. The first case was one of paracolon infection reported by the writer in the *Journal of Medical Research* for 1902. In that case the patient had a positive reaction with the paracolon bacillus obtained from the blood in a dilution of 1 to 100 and the typhoid bacillus in a dilution of 1 to 200. At the autopsy healing ulcers were found in the intestine and the question had to remain an open one whether or not the patient suffered from a mixed infection due to the typhoid bacillus and the paracolon bacillus.

The second case was that of a woman who was in the hospital last year with an attack of typhoid fever complicated by cholecystitis. The Widal reaction was positive in a dilution of 1 to 50. She returned to the hospital yesterday with a severe attack of cholecystitis accompanied by marked jaundice and was operated upon by Dr. Lilienthal. The blood gives a positive Widal reaction in the dilution of 1 to 20. The bile and the markedly icteric urine give no reaction.

The third case was also one of typhoid fever with jaundice due to acute cholecystitis. The Widal reaction was positive in a dilution of 1 to 50 and typhoid bacilli were demonstrated in the fluid in the gall-bladder by Dr. Bernstein of the laboratory staff. The fluid in the gall-bladder in this case was not bile-stained, but consisted of thin seropurulent fluid. This fluid gave a positive Widal reaction in a dilution of 1 to 50.

The fourth case is one of such marked interest that I shall give the history in detail. The patient was a woman sixty-four years of age who was in good health up to the age of thirty-four years when she suffered from an attack of jaundice with severe colicky pains and passed gall-stones. There is no history of typhoid fever. One year before admission to the hospital she suffered from severe colicky pains, chills and vomiting; her skin became extremely yellow, the feces very light-colored, the urine very dark and she passed several gall-stones. She was well after this attack up to two weeks before admission to the hospital. Then she had a chill, vomited dark green fluid, had severe pain in the upper right quadrant of the abdomen and marked jaundice. She was operated upon by Dr. Lilienthal who found a large purulent exudate around the gall-bladder. The Widal reaction was positive in a dilution of 1 to 50 and typhoid bacilli were isolated by Dr. Bernstein from the pus found at the operation.

It will thus be seen that from our observations there is nothing which convinces us that jaundice *per se* can cause a positive Widal reaction, and have pointed out such deficiencies in the cases cited in the literature, that all we can state is that, while icteric serum may at times be possessed of a certain amount of agglutinating power, there is no definite proof at present that it can produce sufficient agglutination to interfere with our clinical diagnosis.

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## A BRIEF NOTE ON THE X-RAY TREATMENT OF GLANDULAR TUBERCULOSIS.*

BY FRANK P. VALE, M.D.,
OF WASHINGTON, D. C.

IT is now just a year since I had the possible value of the X-rays in the treatment of glandular tuberculosis, accidentally demonstrated to me, through the results obtained in the case to be reported this evening. For a year this patient has remained entirely well, until just within a few weeks, when he began to show evidences of a tuberculous intracranial lesion. His progress has been so satisfactory since again instituting X-ray treatment, and promises so well to continue to complete recovery, that I present him to you this evening for your examination, with the hope that I may be able to bring him before you in a few months, cured.

A year ago I knew of not one case of glandular tuberculosis thus treated, and have since naturally been on the lookout for reports of any such. Last winter I met the first reference to the subject in the third edition of Dawson Turner's manual, which had then just appeared. He briefly mentioned six cases of glandular tuberculosis, two of them cured and the others greatly improved, by exposures to the X-rays.

In the most satisfactory book on X-ray therapy which has yet appeared, that of Pusey and Caldwell, just from the hands of the publishers, I find reported five cases, in all of which there was more or less marked reduction in the size of the glands, and in one complete disappearance, from similar treatment. Pusey says as yet there is no literature on the subject, but that there is reason to believe a general attempt is being made at the treatment of this condition with the X-rays.

I have talked to a few physicians who devote their time to this class of work, without gaining much additional information. Dr. Ells-

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worth, Dr. Williams' assistant at the City Hospital, Boston, however, was under the impression, without referring to their records, that several such cases had been successfully treated in the clinic, and thought they were reported in Williams' book. But on consulting it I find only the general statement, that even the largest tubercular glands respond surprisingly well to treatment with the X-rays.

The case I present this evening is also most interesting as an illustration of the difficulty, at times, of differentiating the early stages of primary glandular tuberculosis and Hodgkin's disease. The identity of the two diseases has been much discussed, but I think at last disposed of negatively by recent work, notably that of Reed, as recorded in the Johns Hopkins Hospital reports for 1901-2 (p. 131). To understand the extreme loss of weight of this patient it is necessary to bear in mind the more severe manifestations of glandular tuberculosis as seen in cases, for example like that of Delafield (*New York Medical Record,* 1887, p. 424). Such cases bear the same relation to the chronic forms of glandular tuberculosis, that "galloping consumption" does to fibroid phthisis. Courmont, Tixier and Bonnet (*Jour. de Physiol. et de Path. Gen.,* 1889, 1, p. 826) report a case similar in almost every detail to mine. Another similar case is that reported by Ardouin (*Bull. de la Soc. Anatomique de Paris,* November, 1897, p. 846). These cases of "Lynphadénie Aleucémique" due to the tubercle bacillus have also been studied by Dulcion (*Bordeaux Thèses,* 1896), Sternberg (*Zeitschr. f. Heilk.,* 1898, Bd. xix, p. 21), and others.

I hesitated to employ tuberculine for diagnostic purposes, because the profession is not yet of one mind as to the harmlessness of this procedure, though I think the testimony of Osler, Whitaker, Anders, Trudeau, Shattuck and others should lead us to its adoption. In five cases of Hodgkin's disease in the *Johns Hopkins Hospital Bulletin* just referred to, tuberculine gave negative results, and Reed also states that bad effects from its use have not been seen.

Mr. S. came to me the middle of July, 1902. He had never been sick until present illness began, six months ago, when he noticed a slight swelling on the left side of his neck. Its increase in size has been very slow, but he has progressively lost weight, amounting now to 55 pounds. He has never had syphilis or any other venereal disease. His family history is uninteresting save for the not very significant fact that of nine children, two sisters died of tuberculosis.

A careful examination threw no further light on his trouble. A blood examination showed a slight secondary anemia, with leucocytes about normal as to number and kind. My first impression, as I told him, was that the swelling was tuberculous.

September 1 of the same year he again reported to me. He had lost an additional ten pounds in weight. During my absence from the city in August he consulted one of our leading surgeons, who advised against any operation, without committing himself to a diagnosis. Largely influenced by this opinion, and thinking he leaned toward a diagnosis of Hodgkin's disease, I began exposing the affected side of the neck twice a week to the X-rays, for fifteen to twenty minutes. He had taken no medicine, nor did I then prescribe any.

Imagine my delight at seeing the man rapidly improve. In two weeks he had made the astonishing gain in weight of fifteen pounds. During another four weeks he almost entirely regained his normal feeling of well being and strength, though the further gain in weight was only a few pounds. The swelling in the neck had been reduced one half in size. It was very apparent to myself, and all his friends, he was rapidly getting well. I desired much to know what I was curing, and requested permission to cut out a piece of the swelling for microscopical examination, to which he consented with the suggestion that if the mass could be removed without danger it should be done.

I found three enlarged lymphatic glands, about the size of walnuts, lying deeply under the sternomastoid muscle. Above and below the other glands of this deep lymphatic chain were also enlarged, but not to the same extent, nor sufficiently to have allowed them to be palpated, on account of their deep situation. The incision was extended from the clavicle to the mastoid process and all the glands removed with the exception of two, high up under the angle of the jaw. These were left, as their relations were such that their removal would have added greatly to the risk of the operation.

Under the microscope there was the unmistakable histological picture of tuberculosis—the entire section showing caseous degeneration, with the structure of individual tubercles faintly discernible in places.

Nothing further was done for the patient. After a temporary loss of five pounds following the operation, he rapidly gained in weight. The two glands left under the angle of the jaw increased in size for the first four months, until they could be seen as well as felt. Then they gradually grew smaller and at the end of ten months had entirely disappeared, and the patient had gained in all forty-five pounds, or within about twenty pounds of his normal weight of two hundred and twenty.

He remained in good health until this fall, when he reported to me again about the first of September. He has lost eight or ten pounds in weight. He complains of loss of sense of taste; of his tongue feeling swollen; and of his left arm and leg being numb and weak. His speech is hesitating and thick, and cerebration is not normally active. His memory is poor. His tongue projects to the right side. The knee-jerk on the left side is markedly exaggerated. He cannot support himself on the left leg alone. These symptoms very clearly pointed to an intracranial

lesion, which, in view of his previous history is undoubtedly tuberculous—involving the meningeal lymphatics. The gradual appearance of these symptoms and the prompt improvement which again followed exposures to the X-rays, without any other treatment, supports this interpretation. There is a high blood pressure of 210 mm., but this, in my opinion, is not to be taken as an evidence of arterial disease, but simply a result of the localized meningeal tuberculosis. The radial arteries are soft, heart normal in size, urine normal in quantity and containing no trace of albumin, and in fact nothing to suggest an arteriosclerosis. A syphilitic endarteritis would not have thus responded to X-ray treatment. Several physicians who have seen this patient with me have suggested the administration of potassium iodide. He has not taken a drop of medicine, however, since he came under my care.

In endeavoring to satisfy myself that the involvement of the cervical lymphatics was the sole cause of all his loss in weight I took several radiographs of the chest, which I think would have revealed any associated trouble in the lungs.

His improvement already, at the end of a month of renewed X-ray treatment—exposing the head to the rays three times a week—has been most satisfactory. He can support himself on his left leg—showing its increased strength—and feels generally much better. Even though the ultimate result is not what I now expect, the beneficial effects of the X-ray treatments have been so marked I deem it of sufficient interest to bring the matter before you.

[NOTE.—December 17, 1903. Two months have elapsed since the above communication was read. The patient is now practically well and has returned to his work. For a short time he did not show any further improvement. Dr. Belt examined his eyes for me again and reported that the papillæ were redder than normal and that in each eye there was a small patch of choroiditis. I increased the frequency of the X-ray treatments at two feet with a high vacuum tube excited by a powerful coil, and soon he again showed further progress toward cure. Dr. Belt reports to-day that all evidence of the choridial trouble has disappeared. The patient is quite himself mentally. I find the exaggerated knee-jerk on left side has disappeared also, and that the power in left arm and leg is about normal. He says the feeling of numbness and cold in them is gone.]

Encouraged by this result I have used the X-rays in one other case, one recently discharged from the Sanitarium at Saranac Lake as "arrested." The lungs in this case were affected secondarily to the tuberculous process in the cervical glands. The lungs had rapidly improved at the Sanitarium, but the glands had increased in size. The advisability of their removal was considered by his physicians there, but decided against for fear of bringing the tuberculous process in the lungs into renewed activity. On his way to the Southwest he stopped in Washington for two weeks, and I exposed the glands daily to the X-rays. Even during this short time they diminished appreciably in size, and a few weeks later he wrote me they were hardly half as large as before.

## MEDICAL PROGRESS.

### MEDICINE.

**Behavior of Proteids in Diabetes.**—In severe forms of diabetes part of the proteid molecule itself is excreted as sugar, but it is interesting to note that the various kinds of proteid behave differently in this respect. Thus the ingestion of casein may increase the glycosuria considerably, while globulin from the blood and ovalbumin may have little influence. It may be stated that albumin, which is rapidly decomposed in the body, is apt to aggravate the diabetes. In a patient observed by W. FALTA (Corresp. f. Schw. Aerzte, Nov. 15, 1903) the glycosuria rapidly disappeared when meat was substituted for yolk of egg, which, by virtue of its lecithin, also exerts an unfavorable influence upon the assimilation of sugar.

**Etiology of Aneurisms of the Aorta.**—Aortic aneurisms caused by trauma in perfectly healthy individuals are very rare, but certainly do occur. H. ARNSPERGER (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 5 and 6) believes that small tears are replaced by cicatricial tissue which cannot withstand the continuous pressure. The injury is generally very severe and directed against the thorax. Infectious diseases as a cause are of more importance in the smaller vessels than in the aorta, but it is possible for an infectious thrombus to lead to ulceration with weakening of the walls or for an acute aortitis to be followed by predisposing, chronic changes. Alcohol, nicotin, lead and senile atheroma all play a subsidiary rôle as compared with syphilis. The pathological study of most all aneurisms will show lesions characteristic for lues and rupture of the elastic membrane, such as have been described by others, are hardly ever seen.

**Infection with Eustrongylus Gigas.**—A very peculiar case of chyluria has been very carefully studied by D. STÜRTZ (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 5 and 6). The patient, an Australian, came to Europe to be cured of his disease, which had hitherto puzzled the physician, who had vainly sought for filaria in the blood. After many negative results, the author finally discovered in the urine an egg of *Eustrongylus*, a rare parasite found in animals and occasionally at autopsies. Since all treatment was unavailing, and the seat of the parasite could with probability be located in one renal pelvis, a nephrotomy was performed without discovering any lesion, so that a communication between ureter and lymphatic system was most likely seated lower down. A laparotomy was refused and the patient left without being cured of his chyluria. The case constitutes the first infection of its kind diagnosed during life. The parasite is one of the largest worms known and possesses a blood-red color; it prefers the renal pelvis of animals, and gradually brings about a pressure atrophy of the kidney and otherwise seriously endangers life. With filaria there is an actual obstruction of the lymph-channels with secondary rupture, but the *Eustrongylus* probably injures the vessels directly, and thus leads to very persistent fistulæ. It is likely that a long ether-narcosis will kill the animal, since no more eggs were found after the operation. An exact localization requires cystoscopy and ureteral catheterization. The worm is probably introduced into the system by eating uncooked fish. The eggs readily

develop in water or moist earth and an embryo escapes in five to six months, whose life-history is very short. The friability of the eggs probably explains the rare occurrence of the parasite. All attempts to infect fish and dogs with the voided eggs of the patient were unsuccessful.

**Thrombosis of Renal Vein.**—A very rare complication of chlorosis, thrombosis of the renal vein, has been observed by H. REESE (Deutsch. Arch. f. klin. Med., Vol. 78, Nos. 5 and 6). The patient had already recovered from a bilateral thrombosis of the saphenous veins when she was suddenly seized with vomiting, severe pain in the kidney region, pronounced albuminuria without casts and marked enlargement of the kidney. There also was a slight rise of temperature and a diminution in the amount of urine with rise of the specific gravity. The patient slowly convalesced with rest and iron, but three months later traces of albumin were still present in the urine. The most dangerous complication, pulmonary embolism, did not develop. The case illustrates well that iron is not a prophylactic for thrombosis, for the patient had been taking Blaud's pills for weeks before the complication appeared.

**Etiology and Pathogenesis of Black-water Fever.**—There are three facts which seem to point against the identity of black-water fever with malaria: The distribution of both diseases is not the same, parasites are not generally detected in the blood in the former disease and quinine is without effect. These statements, though correct, are apt to mislead, according to A. PLEHN (Virchow's Archiv, Vol. 174, No. 3). The fever occurs in malarial regions near the tropics; the reason it is not more common in cooler climates is because the system has time to recuperate from the infection during winter. Plasmodia are not found because the disease really constitutes an acute disintegration of red cells, thus setting free the plasmodia, which rapidly dissolve in the serum; if the blood is taken very early in the attack, they can generally be detected. The inefficiency of quinine is also evident from this; since it also induces hematocytolysis, it is clear that it is more apt to do harm. Two factors are necessary to induce an attack: a predisposition and some inciting cause. The predisposition is caused by an intense, continuous and often insufficiently treated infection, such as is common in the tropics. Any variety of parasite may be found, but the estevo-autumnal form is most common. No doubt the number and virulence of the unknown latent form which keeps up the infection during the afebrile period, plays an important part. A diminished resistance of the red cells, probably a manifestation of functional exhaustion on part of the overtaxed blood-forming organism is invariably present, together with an unstable condition of the entire nervous system. The exciting cause of the attack is usually a dose of quinine or some other drug tending to injure the cells; less frequently, a cold, some injury or an emotion is mentioned. The attack is initiated by a severe chill, cardialgia, cyanosis and dyspnea; soon the skin becomes jaundiced and the patients complain of burning on urination. The jaundice is peculiar in that it lacks the greenish tinge and is usually not accompanied by itching. Despite the presence of bile in the blood, and often in large amounts in the feces, the urine generally does not contain appreciable quantities. If the blood is examined during the height of the attack, few changes are noticed besides an anemic condition of the cells, since all abnormal and less resistant forms have already disintegrated. Thus with 20 per cent. hemoglobin and one million red cells, the latter may appear almost normal. In two to three days the jaundice and albumin disappear and the hemoglobin begins to rise, generally by 2 to 3 per cent. daily. There is every reason to believe that the chief destruction of red cells goes on in the liver and spleen. The renal changes are not due to an actual nephritis, but to a functional disturbance of renal activity; when anuria develops, it has a purely mechanical cause and is usually not followed by uremia.

**Excretion of Salts in Nephritis.**—If a healthy person is kept on a uniform diet for several weeks and then a certain amount of chlorides, phosphates and sulphates be given, these salts may be excreted in twenty-four to forty-eight hours, but occasionally the excretion may begin only in twenty-four to forty-eight hours and last for three days or more, even where there is no nephritis. E. v. KOZICZKOWSKY (Zeitsch. f. klin. Med., Vol. 51, Nos. 3 and 4) has studied the same question in nephritis and finds that in cases without edema, two types may be recognized as far as the chlorides are concerned. In one, the ingestion of a medium quantity of salt is followed by diuresis with a diminished percentage, in the other the percentage is constant and not influenced by the amount of urine. In incompensated nephritis with edema, the percentage is frequently diminished, if salt is given. There seems to be a distinct antagonism between chlorides and phosphates, for the latter are excreted most freely where the retention of chlorides in the system is greatest and vice versa. The same holds true for the sulphates. From a prognostic point of view, an increased excretion of chlorides in nephritis, after a period of retention, is a favorable sign, hence a diminished excretion, an unfavorable one. A prolonged increased discharge of phosphates will speak for a retention of chlorides. A drug, such as diuretin, which would wash the chlorides out of the system, would have a favorable influence upon the edema were it not for the injurious effect upon the renal epithelium. Heart tonics are in place, as they help unloading the system of salt, but salt itself should be restricted in the diet. The so-called thirst-cures do not rest upon a sound basis, since the retention of salt and not that of water is the primary cause of edema. If saline intravenous or subcutaneous infusions should be necessary in the course of the disease, they should be hypotonic, that is, should contain less than 0.91 per cent. of salt.

**Antistreptococcus Serum in Articular Rheumatism.**—The employment of sera in this disease has been made the subject of careful study by Menzer, who claims that the lymphatic ring in the pharynx affords the point of entrance for the cocci. His serum is produced from streptococci derived from the anginæ associated with articular rheumatism. As the serum is not passed through animals, however, exact dosage is not possible. A. SCHMIDT (Berl. klin. Woch., Dec. 7, 1903) has lately made a test of this agent in 15 cases, most of which were characterized by an early passage from the acute into the chronic stage, and in which other remedies had met with little or no success. From one to eight injections were given in each case, the dose varying from 5 to 20 c.cm. The quantity was rapidly increased until a distinct reaction was obtained, the next injection being then delayed until the effects of the other had fully subsided. The reaction varied greatly in different patients. In some there was high fever and marked local changes, in others only the latter appeared and in a few no change at all took place. Local reactions were only observed in the joint where the injection had been made, the others remained free. In summarizing his results the author states that definite benefits were seen in six cases, a certain degree of improvement in four and no effects at all in five. The good effects consisted in an abatement of the pain and increased mobil-

ity. The author does not believe that this serum exerts a specific action similar to that produced by diphtheria serum or tuberculin. He admits, however, that undoubted results have been obtained especially in the subacute cases. In acute cases very little effect was observed and in chronic cases none at all. It does not seem advisable to employ the serum until all other methods have failed and a better standardizing is at present a great desideratum.

**Etiology of Yellow Fever.**—A report has been published recently containing the results of investigations by the U. S. Marine Hospital Service, in which is described a protozoan parasite found regularly in certain mosquitoes that had bitten yellow fever patients. To this organism was given the name of *Myxococcidium stegomyiæ*. JAMES CARROLL (Jour. Am. Med. Ass'n, Nov. 28, 1903) has carefully investigated these claims and believes that the question does not stand the test of scientific criticism. He shows that the fusiform stage of this organism is not connected in any way with the transmission of yellow fever. It is apparently not a protozoan parasite, but a yeast fungus in its fusiform stage, the only form in which it is constantly present, it shows the characteristic budding, staining affinities and spore formation of a blastomycete, and it is found with considerable regularity in both male and female mosquitoes that have been purposely fed on overripe bananas to which a culture of wild yeast has been added in the laboratory. The organism has not hitherto been found in repeated examinations of mosquitoes of the genus *Stegomyia* that have bitten yellow fever patients in the early stages of the disease, when such insects had been fed only on blood, dry sugar and water. This statement applies only to mosquitoes that are known to have reproduced the disease in human beings.

**Titration of Gastric Juice.**—This curious observation has been made by F. VOLHARD (Münch. med. Woch., Dec. 15, 1903), who states that if some albumin is added to gastric juice, phenolphthalein will eventually give much higher values than at first, and the change of color will take place considerably later than with litmus. This is best explained by the fact that peptone binds alkali just as readily as it does acid and that phenolphthalein indicates only the presence of free alkali. It is therefore much more accurate to determine the total acidity with alizarine or with red and blue litmus paper. Töpfer's method is based on wrong principles, but gives fairly accurate results; the alizarine does not indicate the free hydrochloric acid, but the total acidity and by subtracting the phenolphthalein figures from those obtained with alizarine, the combined alkali would be obtained which is about the same as the combined acid.

**Detection of Blood in Gastric Contents and Feces.**—The simple inspection of feces and gastric juice for the presence of blood is never sufficient since small amounts will not alter the color. The spectroscopic method is very convenient, though it demands an expensive apparatus; where this is at hand it is best to convert the hemoglobin into hematoporphyrin by the addition of a small amount of concentrated sulphuric acid. D. SCHMILINSKY (Münch. med. Woch., Dec. 8, 1903) prefers the guaiac test to the hemin test, since the amount of material employed in the latter is too small. Great attention must be paid to the diet and everything containing blood or chlorophyl should be carefully avoided. Where there is no danger of a large hemorrhage, some slightly irritating food, such as coarse bread, may be added so as to slightly irritate the ulcerated surface. The examination begins on the third day and all hemorrhage from the nose, mouth or anus must be carefully ruled out. Frequently it is impossible to avoid slight bleedings with the stomach-tube; in such cases the feces alone must decide. A small amount of these are mixed with acetic acid and then shaken with ether, which is poured off after the fluids have separated and then mixed with five drops of a 1 to 5-per-cent alcohol solution of guaiac, and ten drops of oil of turpentine or peroxide of hydrogen. In the presence of much blood the ether will turn bluish violet or blue; with smaller amounts there is a definite play of colors in the case of feces: First green, then brownish-red, then violet, and finally blue. With small amounts of blood, green alone may result; this is not, however, characteristic for blood. Where the test is repeatedly positive, the presence of an ulcer, cancer or a severe disturbance of motility is almost certain.

**Cyclical Albuminuria.**—A contribution to the etiology, prognosis and treatment of this condition, based on his clinical experiences, is made by HAUSER (Berl. klin. Woch., Dec. 14, 1903). He claims that it is necessary to distinguish more closely than heretofore between cases of orthotic albuminuria in which there are to be found occasionally a few structural elements in the sediment and those in which they are absent, even after repeated examinations. The former class he considers true nephritis. Most observers agree that the disease is very apt to follow acute infectious diseases or sometimes an acute nephritis. The author's material comprised 14 cases in which he made careful and repeated urine examinations for several years. These were grouped in two classes. In one the orthotic albuminuria developed after a mild or severe acute nephritis, which, in spite of appropriate treatment, never was fully cured. Here the formed elements gradually disappeared, but the periodical albuminuria remained. But even in the other set of cases, a previous infectious disease, most frequently scarlet fever, seemed to act as a causative factor. Another circumstance which showed an apparent connection between the two conditions, was the fact that the children who had presented a cyclical albuminuria at some time, readily developed an albuminuria sometimes with casts after comparatively slight infections, such as an angina. The author has found, moreover, that most of these patients present symptoms which clinically bear a close resemblance to nephritis. He believes that this form of albuminuria is probably due to circulatory disturbances, to the action of toxins or to the irritation produced by metabolic products which result from unusual muscular exertions. These act on a kindey impaired in its functionating powers by anatomical changes brought on by infectious processes, and result in an occasional excretion of albumin. The seat of this lesion is in the outer epithelial layers of the glomeruli. The author's views as to treatment are as follows: Dietetic measures in themselves are insufficient; nevertheless he would institute at the beginning of the treatment a form of rest cure and also forbid all articles of diet which might produce renal irritation. The patients are restricted to an exclusive milk and vegetable diet for a considerable period. Only after the urine has been free from albumin for a period of several weeks, were the patients gradually restored to an albuminous diet. Efforts at prophylaxis by giving a diet without fluids were unsuccessful. Aside from the discomfort produced, it was found that the small quantities of concentrated urine invariably contained more or less albumin. Energetic diaphoresis also failed. It seemed that the most favorable forms of treatment consisted of diuretic measures and good results were noted from the administration of the various alkaline mineral waters. This seems to confirm the supposition that a nephritic process is probably the cause of the trouble. He sums up his experience in the treatment of this

class of cases as follows: The kidneys must become accustomed to the demands made upon them by the muscular system and this can only be accomplished by a graduated system of diet and exercise. Too much or the latter he has found to be harmful, and constant observation for prolonged periods should be the rule.

**Immunization Against Tuberculosis.**—The numerous difficulties attending attempts at immunization with either human or bovine bacilli are claimed to have been overcome by F. F. FRIEDMANN (Deut. med. Woch., Dec. 17, 1903). He has succeeded in rendering guinea-pigs and other animals immune to virulent doses of tubercle bacilli by previously injecting tubercle bacilli derived from a large turtle which had died from spontaneous tuberculosis. These injections are followed by a local infiltration which soon heals without any scars, and the animals are left in good health, while they tolerate without reaction doses of human and bovine infection which would otherwise be fatal. When killed, after three months, examination showed only occasional scattered minute nodules similar to those described in other immunized animals, but without containing any bacilli. He also noted that turtles infected with turtle tuberculosis soon die with bacilli scattered through all the organs, but if previously treated with human or bovine cultures, they are uninjured by injections of turtle tuberculosis. The author is now making efforts to immunize larger animals by this same turtle culture. As the guinea-pig did not appear to be harmed, the author believes that other animals will also remain free. But, on the other hand, as the guinea-pig, which is a most susceptible animal, is so readily immunized against tuberculosis from other sources by this method, it must be assumed that the turtle bacillus possesses high immunizing power. Further developments of this method are awaited with interest.

**Albuminuria as an Accompaniment of Diabetes Mellitus.**—It is probable that if albumin makes its appearance in the urine in the course of diabetes, it is significant of the development of unsatisfactory conditions. It usually disappears with the establishment of more favorable signs. F. W. PAVY (Lancet, Dec. 5, 1903), from an analysis of 17 cases, concludes that there are no grounds for believing that the temperate use of alcohol in these cases is prejudicial. If not used in moderation, however, the damage inflicted throughout the system by the impairment of the kidney is decidedly grave. Albuminuria in connection with diabetes may exist for a long time without leading to any symptomatic indication of its presence. It is, therefore, less significant in these cases than in ordinary conditions of nephritis, making it evident that albumin and casts have a different signification according to the conditions with which they are associated. Experience shows that even apart from diabetes, they are met with frequently in persons of advanced age who present no other symptoms of renal trouble. That they are insignificant is often shown by the fact that time may pass without the development of further symptoms.

## PHYSIOLOGY.

**The Biological Function of Calcium.**—In an investigation of the relation which calcium bears to the enzymatic process that results in the coagulation of the blood, L. SABBATANI (Arch. Ital. de Biol., Oct. 10, 1903) finds that calcium is present in the ionic state, and that the amount of calcium-ion sufficient to bring about coagulation is very small, much less than the total quantity of calcium normally present in the blood. This hypothesis explains rationally a large number of phenomena relating to blood-coagulation, namely, as follows: (1) All the physical causes that diminish the degree of ionization can produce incoagulability (cold, great molecular concentration). (2) All those reagents, which, like the oxalates, fluorides, and alkaline carbonates, prevent coagulation by combining with the calcium in the blood, produce this result when present even in very small doses. Upon the basis of his researches the author concludes that the coagulation of blood requires the presence of Ca-ion, whose concentration may vary between wide limits; this concentration has a minimum and a maximum, below and above which respectively the blood remains indefinitely in a liquid state. The blood will not coagulate if by means of physical or chemical reagents the Ca-ion is made to go beyond the above limits.

**A Glycolytic Substance Isolated from Yeast.**—That nucleohistone determines the fermentation of the monosaccharides is apparently established by the researches of A. HERLITZKA (Archives Ital. de Biol., Oct. 10, 1903). The question is then asked: Can the nucleohistones be classed among the soluble ferments? The latter are considered to be the product of living protoplasm, while nucleohistone is an integral part of protoplasm, indeed, its most highly differentiated part being an important constituent of the nucleus. It would seem that the numerous catalytic phenomena discovered within the past few years as the result of the action of nucleohistones, are to be attributed not to the action of enzymes, but to the direct action of living protoplasm. Distinguished from enzymes, these substances would be termed "plasmozymes."

**Acapnea, a Result of Lowered Barometric Pressure.**—A marked diminution in the carbonic acid in the blood resulting from a lowering in the barometric pressure, has been noted by A. Mosso and G. MARRO (Archives Ital. de Biol., Oct. 10, 1903), who apply to this condition the name acapnea. The considerable variation in the content of carbonic acid following a change from the respiration of air at ordinary pressure to that of rarefied air, in a very short time, cannot, according to the authors, be explained on the basis of a simple phenomenon of physics. It must be the result of the chemical decomposition of constituents of the blood and tissues.

**The Hydrolysis and Synthesis of Fats by Platinum Black.**—It is now generally believed that the action of the various ferments is the same as that of the catalytic agents used in chemistry. Bredig was the first to show that colloidal solutions of gold, silver, platinum, etc., have an action similar to that of certain enzymes in splitting hydrogen peroxide into water and atomic oxygen. Numerous other chemical transformations have been brought about by finely divided metals, namely, the oxidation of alcohol to acetic acid, the decomposition of dilute oxalic acid, the oxidation of pyrogallol, the inversion of cane-sugar, etc. In a series of interesting experiments, HUGH NEILSON (Am. Jour. Physiol., Dec. 1, 1903) found that platinum black can imitate the action of lipase, the fat-splitting ferment. In comparing the catalytic action of platinum black with that of lipase on ethyl butyrate, the following facts were observed: Platinum black accelerates the hydrolysis of ethyl butyrate, as lipase also does. But the action of platinum is slower. The action of the platinum increases with the increased concentration of the platinum. This is also true of lipase. The action increases with the temperature, reaching into maximum at 50°, which is somewhat higher than the lipase. The action of the platinum is independent of the concentration of the ethyl butyrate, which seems also to be true of the action of lipase. Poisons, with the exception of sodium fluoride and hydrocyanic acid, affect the catalytic action of platinum in a manner quite comparable to their action on lipase. Platinum

black synthetizes butyric acid and ethyl alcohol into ethyl butyrate, as shown by increasing odor of ethyl butyrate and saponification giving odor of butyric acid. This synthesis is also brought about by lipase.

**Effect of Water and Food on Gastric Secretion.**—Most of the reported experiments upon the effect of food on the secretion of the stomach are faulty, since the food was chewed and swallowed and thus an irritation of the olfactory and gustatory nerve brought about which was responsible in part for the hydrochloric acid secreted. G. LANG (Deut. Arch. f. klin. Med., Vol. 78, Nos. 3 and 4) repeated the experiments with water, proteids, carbohydrates and fat, on perfectly healthy individuals, but took the precaution to introduce the food with the stomach-tube. He reports as follows: Water gives negative results; the expressed fluid was not at all or only faintly acid. Starch also proved an indifferent body; sugar did not bring about any appreciable acidity, but the amount of fluid expressed was larger than with starch. Whether the slightly hypertonic fluid caused a secretion of water from the stomach walls or whether the motility of the stomach was actually impeded, could not be decided. When fat was employed, the expressed fluid contained a much higher percentage of this than the ingested fluid, since water leaves the stomach more readily than fat. Probably the fat irritates the pylorus reflexly as soon as it reaches the duodenum, thus causing a partial closure of the stomach, while the water is absorbed from the gastric mucous membrane. In a case of nervous dyspepsia, where plain water gave rise to acid secretion, fats actually diminished the acid, but with butter the percentage of organic acids was high, probably owing to the fat-splitting ferment of the stomach. Gelatine, though normally acid, was expressed nearly neutral, possibly owing to an alkaline pyloric secretion. The same pyloric closure was noticed here. Proteids were found to be the only food-principles which cause hydrochloric acid secretion, though the amounts were always much smaller than occur with the usual test-meals. It follows, from all these experiments, that gastric secretion is affected more strongly by reflex stimulation than by direct irritation. The reflex stimulation is strongest, if chewing is accompanied by a pleasant sensation, as in the case of palatable food, than with pungent articles such as mustard, which are more apt to excite disgust.

**Origin of Glycogen from Proteid.**—The question, if proteids alone can bring about a deposit of glycogen in the liver, has apparently been solved by C. HIRSCH and D. ROLLY (Deut. Arch. f. klin. Med., Vol. 78, Nos. 3 and 4). Rabbits were rendered glycogen-free by starvation and strychnine-tetanus, after which they received subcutaneous injections of colon cultures, so that a toxic fever set in. After a certain time the animals were killed and large deposits of glycogen were found in the liver and muscles which had formed owing to increased proteid destruction.

**Action of Morphine on Animal Heat Mechanism.**—An inquiry to determine how morphine acts to cause the profound fall of heat production and temperature has been made by E. T. REICHERT (Univ. Penn. Med. Bull., Nov., 1903). Two series of experiments were made, one being in reference to the temperature curve in normal animals, and the other in reference to the specific actions upon the thermogenic mechanisms. The latter consisted of a number of series in which sections of the cerebrospinal axis were made at various levels, thus eliminating from time to time certain portions of the heat-producing apparatus, and thus determining by exclusion the parts acted upon. He found that morphine exerts coincidently thermodepressor and thermo-augmentor actions, the former being by far the most important; and that the thermodepressor effects may be preceded or interrupted by thermo-augmentor effects. The thermodepressor action is exerted solely upon the caudate thermo-augmentor center. The thermo-augmentor action is exerted chiefly upon the pontobulbar thermo-augmentor center, and to a very limited extent on the skeletal muscles. It was also found that morphine and codeine are direct antagonists in their actions upon the caudate center.

## NEUROLOGY AND PSYCHIATRY.

**Progressive Myoclonus Epilepsy.**—In an interesting pamphlet, H. LUNDBORG goes into a detailed description of progressive myoclonus epilepsy, which he has made the object of special study. The disease generally begins acutely during late childhood without ascertainable cause. Girls are generally affected earlier and more frequently than boys. The first symptoms are nocturnal epileptiform convulsions which may be preceded for some time by nocturnal incontinence. After several years, during which the attacks become more frequent, myoclonic symptoms develop. In rare instances the myoclonic symptoms precede or appear simultaneous with the convulsions. The course is chronic and progressive; soon the patients will become helpless and general marasmus will appear if some intercurrent disease does not carry them off. Three distinct stages may be recognized: (1) The epileptic-tetaniform stage. Here the condition is first diagnosed as epilepsy, but soon the tetaniform character of the convulsions will be more pronounced; the patients awake suddenly and complain of a painful spasm in different parts of the body. The mildest attacks merely amount to several rapidly repeated twitchings in the extremities; the severer ones may last half an hour and may closely simulate tetany in that the twitchings are so rapid that the muscles cannot relax in the interval. Occasionally consciousness is lost here, perspiration and salivation are increased, but urine and feces are not voided involuntarily. Every manipulation aggravates the suffering, but as the attacks increase in frequency and appear almost every night, they become milder, diurnal symptoms appear and the patient enters the second, the myoclonic-epileptiform stage, which is of much longer duration, and may last decades. Tremor, fibrillary and fascicular disturbances of motility are noticed and myoclonic twitchings make their appearance, first in the upper, then in the lower extremities, trunk, neck, face, then the diaphragm and pharyngeal and laryngeal muscles, and finally the ocular muscles and sphincters. It is particularly characteristic that the severity of the disease varies on different days, and distinct cycles, lasting several days to weeks, may be noticed. External irritants of all kinds and psychical disturbances aggravate the twitchings. The patellar reflexes are usually increased, nutritive disturbances are absent, but in time a certain degree of muscular rigidity may appear. In the later periods of this stage, psychical depression is pronounced, intelligence is on the decline and the patients become stupid and capricious, and not rarely violent. The terminal stage is marked by gradually increasing decay and cachexia. The epileptiform convulsions cease entirely, the periodicity is less regular, and the patients are almost constantly in a semi-stuporous condition, interrupted only by the myoclonic twitchings. Despite all care the course is steadily downward. The etiology of the disease forms a very interesting study. Generally several members of the same family are affected, while other members often give evidence of diseased nervous systems. Thus in one family, whose records dated back for over a hundred years, eighteen cases were discovered in ten branches, yet direct transmission from one generation

to the other is not the rule. Alcohol seems to play the same prominent part as in epilepsy, for in more than half of the patients the fathers were addicted to drink. Marriage between near relatives is rather common in the afflicted families. The influence of puberty, menstruation, pregnancy and lactation has not been studied sufficiently, but the advent of puberty seems to aggravate the disease. Infectious diseases, such as syphilis and tuberculosis, probably play no part. A few complicated and atypical cases are on record, and the differential diagnosis may occasionally present difficulties. Chronic progressive chorea is generally directly inherited, it affects individuals later in life, shows no regular periodicity and the twitchings are slower and more liable to affect groups of muscles. Koschewnikow's epilepsy bears a close resemblance, but paretic weakness of the extremities, contractures and muscular rigidity do not belong to myoclonus epilepsy. Hysteria alone or complicated with epilepsy may be very difficult to distinguish; chorea electrica is an endemic disease affecting individuals later in life; it generally runs an acute course with fever; the twitchings affect only one side of the body and they are accompanied, not preceded, by epileptiform attacks. Paralysis agitans may occasionally simulate atypical forms of the disease. Lastly, Thomsen's disease may run a very parallel course, but the muscular contractions are more tonic and the mind is usually not affected. The pathology is interesting in that there are found the lesions of epilepsy in the second layer cells of the cortex, plus a maximum intensity of the same form of cell-death in the cells of the third layer. Presumably the latter changes underlie the myoclonic spasm. The two diseases have a common soil of degeneracy which is expressed in an organic cellular anomaly of the second and third layers of the cortex. This anomaly manifests itself at the supererogation of an immediate excitant, in epilepsy and myoclonus. This excitant is probably a general toxic or autotoxic agent acting in a uniform manner upon these particular cells. Since the soil for the implantation is so remarkably degenerative, the intoxication may be slight and transient, and therefore doubly difficult to detect. If thyroids and parathyroids are extirpated in animals a condition very similar to myoclonus epilepsy is induced and a thorough study of the parathyroids in connection with the disease is imperative. The treatment is very unsatisfactory, yet the suffering may be considerably allevated. The best care is always in an asylum, since relatives rarely exhibit the necessary patience. Venesection, hypodermoclysis and warm baths often cut short the attacks. The bromides and chloral are as efficient as in epilepsy, but organotherapy has proven a failure, though thymus and parathyroid tablets have not had sufficient trial. Operative removal of parts of the cortex has been tried in one case, but the patient died soon after from wound-infection.

**Variations of the Syndrome of Cerebral Tumors.**—DURET DI LILLA (Gazz. degli osped., Dec. 3, 1903) divides the symptoms of brain tumors into prodromal, complete, attenuated, incomplete or partial, primary or secondary, delayed, or cases with reversed or irregular symptoms. There are cases also where the only manifestation of the tumor is in convulsive or epileptic crises: (*a*) Acute or early cases, complete syndrome, with a progressive course. There are usually cases at the base of the brain, central ganglia, or cerebellum or large tumors. There are exceptions to this rule. (*b*) Syndrome attenuated, incomplete or partial. In these cases only two or three cardinal symptoms of brain tumors are present. (*c*) Syndrome primary, secondary, delayed, or reversed. In these cases symptoms caused by irritation are more marked than by actual presence of a neoplasm. Local symptoms may be absent in cases where autopsy shows a large growth. An entirely different set of symptoms may be caused by the same tumor at different times. (*d*) Syndrome reduced to convulsive symptoms alone. These symptoms may be caused not only by tumors in the motor region, but by tumors of the parietal, basal, cerebral or other regions. They may be caused by very small tumors. (*e*) Syndrome of the nature of vertigo, without other symptoms. (*f*) Syndrome marked chiefly by mental symptoms or pain. The writer concludes that the usual clinical syndrome does not constitute an absolute criterion for diagnosing a cerebral tumor, but is in reality an epiphenomenon.

## PEDIATRICS.

**Acid Creamless Milk in Gastro-enteritis.**—Since 1897 the most strenuous efforts by intestinal lavage, water diet, baths, astringents, etc., have been made by HENRI DE ROTHSCHILD (Le Progrès Medical, Oct. 24, 1093) and his associates to overcome the gastro-enteritis of infants. But in spite of the most devoted care the mortality up to last May was in the neighborhood of fifty per cent. At that time the treatment was changed to milk deprived of cream by centrifuging and acidified by pure cultures of the lactic ferment. From 30 to 60 cc. of this were given at each feeding. The cases treated were those of grave prognosis characterized by very profuse diarrhea, rapid emaciation, bad general condition and high fever. In a remarkably short time the temperature subsided, vomiting ceased, the diarrhea diminished, the stools becoming normal in forty-eight hours in some cases, and the weight of the infant increased. The gain in weight was most noteworthy; other children treated at the same time by the older methods showed a rapid wasting. Out of 14 almost hopeless cases, 13 recovered. The milk was prepared by Tissier and Lanzenberg of the Pasteur Institute.

**Starch Digestion in Infancy.**—This question has been debated pro and con by numerous authors without any agreement having been reached. A series of practical experiments for the purpose of demonstrating whether infants could really digest starch, were undertaken by H. L. K. SHAW (Albany Med. Annals, Jan., 1904). Thirty-five infants were given barley water on various occasions, instead of their regular feeding. One hundred of such barley meals were removed from fifteen minutes to two hours after the feeding. The stomach was washed out before the feeding in about one-third of the cases. The stomach contents tested with Lugol's solution showed that free starch was present in 2 per cent., erythrodextrin in 41 per cent., and achroodextrin or maltose in 57 per cent. of the tests. In the first two instances the babies were sick, and in the same infants starch conversion was found at other times. In order to determine whether the stomach contents contained any diastatic ferments, the latter were removed after a regular or barley water feeding, and added in varying amounts to a one-half-per-cent. solution of laundry starch. After being in the thermostat for an hour, the addition of Lugol's solution did not show the starch reaction in a single instance. The stomach contents removed two hours after feeding showed diastatic power. Tests to determine the diastatic powers of the saliva also showed that a partial conversion had taken place, and that both free and converted starch were present in the same test tube. It appears, therefore, that the saliva of very young infants contains a diastatic enzyme capable of converting small amounts of starch into maltose; that the diastatic action of the saliva may continue in the stomach as long as two hours after feeding, and that on physiological

grounds there is no reason why young infants cannot digest small amounts of starch.

**The Value of Antitoxin as a Prophylactic in Diphtheria.**—The following highly interesting statements were made by NETTER, at the recent International Congress of Hygiene at Brussels (Gazz. d. Osp., Nov. 3, 1903): At the request of the Pediatric Society of Paris over 11,300 prophylactic injections of diphtheritic antitoxin were reported, of which some were made in private practice, and many in public institutions. The conclusions drawn are to the effect that these injections confer an almost complete immunity which begins twenty-four hours after the injection had been made, and usually lasts for about one month. Those that get the disease pass through a benign, considerably modified form of it, similar to the varioloid of vaccination. Accidents attending these injections are few and of little importance, usually occurring in adults; abscesses must be accounted for by lack of cleanliness. The usual dose employed as a prophylactic was 500 units. All children of a family where there is a case of diphtheria should receive prophylactic doses of the antitoxin; this measure is of especial importance in cases of public institutions, schools, colleges, etc. Wherever there is a prevalence of diphtheria in institutions it is advisable to subject the children to monthly prophylactic treatment, as outlined above, until the epidemic is thoroughly stamped out. This should also apply to cases of measles, scarlet fever and doubtful infections; the injections here should be stronger and at shorter intervals. Löffler and Netter obtained a unanimous approval of the Congress as regards the above measures.

**Treatment of Constipation in Infants.**—A simple method of treatment of obstipation in infants is recommended by CLAMMAN (Deut. med. Woch., Vol. 29, No. 44), which he has employed successfully for several years. As the infant lies on his back, a medium-sized Nelaton catheter, thoroughly oiled, is introduced into the rectum. This is then worked backward and forward, and also gently twisted, inducing by this means reflex expulsive action on the part of the intestines.

**Pyelitis in Infants.**—Attention is called to the possibility of a primary pyelitis in infants which may be readily overlooked, as the urine of babies is rarely examined. M. HARTWIG (Berl. klin. Woch., Nov. 30, 1903) reports three cases in which the clinical picture closely resembled typhoid. The symptoms consisted of a gradually increasing fever which continually returned even after the administration of antipyretics. This could not be accounted for by anything found on repeated physical examinations, until the urine was carefully examined. This was found cloudy and full of bacilli and pus corpuscles. The treatment consisted of various antipyretic measures, and bromide of sodium to guard against eclamptic seizures. Urinary antisepsis was secured by urotropin and turpentine. A cure resulted in from three to four weeks. The author advises that in every case of continued fever in a baby, where all other sources can be eliminated, including typhoid, the urine be carefully examined microscopically. Secondary pyelitis is common enough, but a primary form is rather rare, and should always be borne in mind in doubtful cases.

## HISTOLOGY, PATHOLOGY AND BACTERIOLOGY.

**Pathology of the Parathyroid Gland.**—Strangely enough, the parathyroid glands, though apparently of great physiological importance, have been neglected from an anatomical and pathological point of view. H. PETERSEN (Virchow's Archiv, Vol. 174, No. 3) has examined a hundred of these organs and has been able to find them in almost all cases at the middle of the posterior edge of the lateral lobes of the thyroid. Occasionally two organs were present on each side, less often only one on one side or two or three on one side and one on the other. They generally bear a distinct relation to the larger thyroid vessels and their shape varies considerably. In young individuals, the amount of connective tissue is scant and follows the vessels so that the organ may be regarded as a mass of cells divided into lobules by its arteries; but with age the amount of fibrous tissue and fat increases. The vessels enter at a slight depression, which may be regarded as hilus. The greatest importance attaches itself to the parenchyma cells which may be of two types: a large cell with well stained intercellular substance and peripheral nucleus and a smaller one with more indistinct contours and central nucleus. Excretory ducts could not be detected. After the twentieth year, a third type of cell, indicating a degenerative swelling, may occur. Hemorrhages, pigmentation, deposit of colloid, cystic degeneration and fatty infiltration are very common. Elastic fibers occur only in the larger-sized vessels, while the smaller ones seem to distend and tear very readily. As with the thyroid gland, the internal secretion seems to be colloid in nature; it is occasionally stored up and then presses the cells into duct-shaped structures. Any distinct pathological changes standing in relation with the disease of the patient, were not found, but in one case of Addison's disease the colloid deposit was especially large; in one of pernicious anemia there was complete cystic degeneration, and in a case of diabetes a pronounced fatty infiltration was present.

**Localization of Hemichorea.**—Occasionally an apoplectic stroke is preceded for some time by choreic movements involving the side of the body to be paralyzed, more often this phenomenon is noticed after the paralysis. It stands in close relation with hemiathetosis but has nothing to do with general chorea. D. AUFSCHLAGER (Zeitsch. f. klin. Med., Vol. 51, Nos. 3 and 4) has had occasion to dissect the brain of a patient who died of tuberculous meningitis and who had had choreiform movements in one arm for fifteen years. An old apoplectic cyst was found in the thalamus opticus to account for these. Pressure upon the pyramidal tracts could be ruled out and the long duration of the affection spoke against a purely functional derangement of the motor fibers.

**Air Embolism.**—The dangers following this affection are explained by L. P. WOLFF (Virchow's Archiv, Vol. 174, No. 3) as follows: The air rapidly enters the right heart where it causes a distinct sound and then passes into the pulmonic circulation, obstructing the smaller vessels. The heart will be able to overcome this enormous resistance only if a small number of capillaries contain air, and if it is not weakened by disease or hemorrhage. Air is only rarely seen in the left heart or systemic circulation; if present, it is due to post-mortem decomposition or to an open foramen ovale. If death does not set in, the air is pressed out of the vessels into the alveoli as the pressure here is least. Occasionally a few bubbles pass into the pulmonic veins and the patient may then die of embolism of the cerebral, spinal or coronary vessels. To avoid air embolism, all gaping of the veins at the root of the neck should be guarded against, and the wound should be constantly kept moist. In operation on the puerperal uterus, the Trendelenburg position must be avoided. As soon as air has entered, it must be pressed through the lungs as rapidly as possible by inducing coughing or vomiting or by giving a saline infusion through the injured vein or else an attempt must be made to force the air backward by rhythmic compression of the thorax with alternate opening and closing of the vein.

The inhalation of oxygen is also serviceable. Puncture of the right heart is an extreme measure, which will rarely do good.

**Cause of Human Actinomycosis.**—A distinct difference in growth is obtained if actinomycotic pus is transplanted on culture media instead of the characteristic granules; in the former case the colonies will be larger and the gelatine will be liquefied more rapidly than in the latter. As observed by K. DÖPKE (Münch. med. Woch., Dec. 22, 1903) the oval bodies contained in the granules will first elongate and divide. This division may repeat itself several times after which elongation takes place to be followed by segmentation into a number of short rods. The behavior toward Gram's stain is peculiar: the granules stain well, but lose this property soon after division, until they develop into rods when they again retain the dye. The club-shaped structures, which are so frequently described as characteristic, are probably not signs of degeneration, since they frequently develop and disappear rapidly in the same culture. It is more likely that they constitute spore-containing receptacles, as granules develop from them very rapidly, even under unfavorable conditions. It is much easier to find club-shaped structures in the pus from animals than from man, and the two forms of actinomyces are probably not exactly identical, unless the variations are due to the different culture-media. The tendency to calcify manifests itself also on artificial media in the form of mulberry-shaped, very hard granules, which settle to the bottom of the tube. The best medium is invariably glycerin-agar at body temperature, with or without oxygen; the cultures here are raised, amber-colored with darker and depressed center from which radiations extend to the periphery. The method of infection in man is not as clear as in animals, but since the germ has been found in the contents of carious teeth it is possible that it can be transmitted by dental instruments.

**Pathology of Pertussis.**—Based upon a large number of autopsies, G. ARNHEIM (Virchow's Archiv, Vol. 174, No. 3) looks upon whooping-cough as an infectious condition of the respiratory passages, especially the trachea, manifesting itself chiefly as a desquamative catarrh. The characteristic bacteria are easily detected in large masses in the mucus and the mucous membrane, and where the lungs are involved they also occur in the bronchopneumonic foci. The characteristic attacks are induced by the presence of the bacteria in especially sensitive portions of the larynx and trachea. They are to be looked upon as attempts to rid the system of the germs. During the course of the disease the secretion becomes more viscous, owing to the influence of pyogenic germs which also set up an increased chemotaxis of leucocytes. After the disease is over, the mucous membrane returns to its normal condition.

**Organization of Blood Effusions.**—A case of extensive cerebral hemorrhage of some age, observed by R. MILNER (Virchow's Archiv, Vol. 174, No. 3) offered valuable material for the study of the alterations which the effused blood undergoes. The cause of the chemical changes is to be found in the surrounding tissue; its influence manifests itself slowly in the thrombus but more rapidly in the cells. The hemoglobin is first converted into hematoidin and a hemosiderin which gives no iron reaction; this may occur in the red cells or after these are disintegrated. Both principles occur in solution from which they slowly precipitate, the first as distinct crystals, the second in the form of granules with sharp edges. The disintegrating leucocytes play an active part in bringing about this precipitation, but for the hematoidin the fibrin also has some influence, and for the hemosiderin the stroma of the red cells. The remainder of both solutions saturates the strands of fibrin where part of the hemosiderin is converted into another variety of this substance containing, however, iron. The leucocytes from without have little influence upon the modification of the pigment, but the epithelioid cells are very potent, no matter whether the pigment is dissolved or not. Fixed cells of the dura, which have absorbed coloring matter, demonstrate the same changes. The hematoidin is rapidly dissolved out of the cells and carried into the blood-stream but the second form of hemosiderin is more permanent.

**Glycogen Reaction of Leucocytes.**—The blood examination in a large number of cases has convinced J. SOROVOWITSCH (Zeitsch. f. klin. Med., Vol. 51, Nos. 3 and 4) that the presence of the glycogen reaction in the leucocytes is not an absolute proof of suppuration, though it makes the existence of an abscess somewhere in the body probable, if other clinical symptoms are present, provided the patient is not suffering from pneumonia. A positive iodine reaction was also found with coprostasis, on account of the intestinal intoxication accompanying this, with small circumscribed carcinomata and in other intoxications with local pains. In blood diseases the test is of no importance but it will often aid in distinguishing between rheumatic and gonorrheal arthritis, since always negative in the former and positive in the latter. A positive reaction is also common in myxedema and Addison's disease, which points to the imperfect neutralization of some toxin in the circulation. Glycogen was detected more frequently in the cells of exudates and pus than in the blood, even if the irritant was non-bacterial and it seems likely that the protoplasm of the leucocytes undergoes a distinct change as soon as they leave the vessels. The reaction can be artificially created by injecting all kinds of toxins and irritants into the blood of animals. The phenomenon is probably a form of degeneration; every living cell is able to convert proteid into glycogen and this into glucose by means of a special ferment. When an irritant is present, the ferment is paralyzed or destroyed, so that the glycogen remains stored up in the cells and is lost to the animal economy. There are many different ways of demonstrating iodophile leucocytes; in the simplest one thin cover-slips are prepared and then immersed for three minutes into iodized gum containing one gram of iodine, three of iodide of potash and 60 of gum arabic to one hundred of water. Canada balsam must be avoided.

**The Morphology and Chemistry of Fatty Degeneration.**—That fatty degeneration is due to an infiltration of previously injured cells is the claim made by H. RIBBERT (Deut. med. Woch., Vol. 29, No. 44). He believes, from the results of his observations, that the fat enters into normal cells and accumulates as deposits of fat, forming the adipose tissue, whereas when it enters into pathological cells it produces fatty degeneration. The two processes may thus be regarded as a physiological and a pathological fatty infiltration.

**Development of the Islands of Langerhans.**—A careful study of this development has been carried out on the pancreas of 21 human embryos by R. M. PEARCE (Univ. Penn. Med. Bull., Nov., 1903). He finds the differentiated cells, characterized by a rich, finely granular, eosinophilic protoplasm, lie as small round or oval masses in direct continuity with the cells of the tubule. Later the attached portion becomes constricted, and, lengthening, forms a stalk-like, solid process of cells connecting the island with the acinus. At this period a few entirely isolated islands are present. A separation takes place and is apparently brought about by the pressure of the investing connective tissue. Vascularization has now occurred. Later on the cells be-

come arranged in columns and a fine reticulum is observed. The rapidly forming glandular structures finally surround the islands, which then occupy the centers of the lobules. In syphilitic pancreatitis of the newborn, a condition in which the normal development of the pancreas is arrested by a rapid proliferation of connective tissue, confirmatory evidence of this mode of development is supplied by the presence of solid processes of cells connecting the islands and acini. The demonstration of the differentiation and final independence of the islands of Langerhans, as here given, offers an anatomical basis for the theory, so strongly supported by pathological and experimental observations, that the islands have a physiology independent of the glandular portion of the pancreas.

**Differentiation Between Typhoid and Other Intestinal Germs.**—O. LENTZ and J. TIETZ (Münch. med. Woch., Dec. 8, 1903) recommend the following bacteriological method for suspicious stools: The feces are mixed with double the amount of physiological salt solution, until a homogeneous mass results; 0.1 to 0.2 c.cm. are then distributed evenly upon a dish of agar, containing malachite green in the amount of 1-6,000. Colon bacilli do not grow upon this medium but typhoid bacilli and certain alkali-producing bacteria readily develop to colonies resembling dewdrops. The spatula used for spreading the germs is also passed over the surface of two litmus-lactose-agar plates which are examined after twenty hours. If no typhoid colonies are then found upon these, four or five suspicious colonies of the green plates are tested with highly agglutinating serum. Should this also give negative results, the entire surface of the green plate is washed off by means of 2 c.cm. of broth and a loopful then distributed over another blue plate. After sixteen to twenty hours, typhoid germs can then be readily detected, even if the stool contained only few. The green agar also forms an ideal culture medium for the paratyphoid germ.

**An Effort to Produce an Antibody from the Blood Serum of Cancer Patients.**—The following experiments were made by C. S. ENGEL (Deut. med. Woch., Vol. 29, No. 48) for the purpose of producing antibodies without anti-alexins. Ten to fifteen cubic centimeters of blood were drawn twice a week from each of two subjects afflicted with inoperable cancer of the stomach, and the resulting serum was injected into rabbits. The serum was heated to 58° C. before injection, in order to eliminate the alexins. The serum from the rabbits thus treated was injected into the cancer subjects together with a further supply of alexins in the form of normal serum from healthy subjects. Tests of the serum in vitro indicated that antibodies had been generated in only one of the rabbits; in that from the other animals they were negative. The author claims that one of the patients showed considerable improvement after this serum treatment and was able to swallow solid food. The disease continued its course, however, and the patient died in four months. The other patient died in about two months without having showed any signs of improvement. The author believes that serumtherapy based on injections of cancer tissue is more promising than that based on injections of serum. Other experiments also indicate that the prospects are much better for the production of an effective animal serum by injection of human blood serum from subjects with constitutional disease other than cancer.

## GENITO-URINARY AND SKIN DISEASES.

**Preventive Treatment of Syphilis.**—Whether it is possible to abort syphilitic infection after the initial lesion has appeared is considered by many to be still an unsolved problem, for it is yet an undecided question whether the chancre is a strictly local lesion or whether the general infection has already taken place when this appears. E. HOLLÄNDER (Berl. klin. Woch., Nov. 16, 1903) has recently published his observations on a series of 59 cases which he has treated and kept under continual surveillance. He brought about the destruction of the chancre by means of the Pacquelin cautery, never bringing the glowing point in actual contact with the lesion. He claims that by this means heat rays penetrate much more readily and diffusely into the tissues than when the cautery point itself enters the skin. In the latter case, the instrument merely cuts and the effect is mechanical rather than thermic. Of the 59 cases operated upon, later syphilitic lesions developed in 12, while some of a more doubtful nature appeared in 3 others. The remaining cases were free from further symptoms for varying periods of from 2½ years to six months. Five of these patients married, and in no case was the wife infected—some even bore healthy children. It was also found that in a number of instances where swelling of the adjoining lymph-nodes was present, the latter subsided. Another point which the author determined was the difference in the behavior during cauterization of the specific and non-specific lesions. If, after cauterization of an ulcer, without bringing the glowing into actual contact with the sore, the base of the latter be scraped with a sharp spoon, not a bit of tissue can be scraped away if the lesion has been a syphilitic one, and no bleeding results. In the case of a non-specific ulcer, however, the entire base of the ulcer can be readily scraped away and bleeding follows—no actual induration is present. The latter also heals up very quickly, while cicatrization in the chancre may take several weeks. In those cases where further specific lesions developed, the entire course of the disease was found to be much less severe than in ordinary cases and the author believes that destruction of the primary sore has a marked beneficial influence. The proof of a definite healing also seems evident by the fact that in a few cases the patients again became infected with a hard chancre.

**Treatment of Skin Diseases by Light Rays.**—A series of 111 cases of various skin diseases which have been treated by the Finsen or the Roentgen rays is reported by J. F. SCHAMBERG (Am. Med., Dec. 19, 1903). The former was used in 15 cases, and he believes that it is the best-known treatment for lupus vulgaris. In the erythematous form he has seen some improvement, but no cures. When the lupus nodules are ulcerated he finds that the Roentgen rays should be given preference over the Finsen rays, when the mucous membranes are affected, and also in hypertrophic and vegetative forms of the disease. He comes to the same conclusions as other observers as to the limitations of the X-ray in cancer of the skin. The X-rays were also found extremely valuable in acne and brilliant results were obtained even in long-standing cases. In eczema the X-rays were found to relieve the itching and in effecting a disappearance of the eruption. In psoriasis the effect was only temporary and relapses are not less common than under other methods of treatment. Benefit was also found in addition in other dermatoses, sycosis, lichen planus, ringworm and favus, tuberculosis of the skin, blastomycetis and others. He believes that the liability to the production of a burn, with ordinary measures, is extremely slight.

**Inoculation of Anthropoid Apes with Syphilis.**—Attempts to confirm the experiments of Metschnikoff and Roux in this field have been made by O. LASSER (Berl. klin. Woch., Dec. 28, 1903). He inoculated a male chimpanzee with virus from a man who presented the initial lesion of syphilis on his arm. Multiple inoculations were made on the lips and the forehead which

healed promptly within forty-eight hours. In two of the localities—above the eyebrows—lesions appeared in two weeks, which, in their form, color, indurated edges and central ulceration, strongly suggested the primary syphilitic sore as found in man. Within a few weeks a characteristic papillary eruption also appeared in the palms and soles, around the anus and on the forehead, from which the hair also began to fall out. The cervical lymph-nodes then became enlarged. The author does not claim that the evidence is positive that the disease may be transmitted from man to the ape, and that in this case the picture is that of an abortive or weakened form of syphilis, gauged by the standards adopted for man. It is hardly to be expected that the virulence of the disease may be sufficiently increased to permit its transmission from one animal to another. The rarity of the material and the prevalence of tuberculosis among apes in captivity are unfortunately marked hindrances to extended experiments. Sections made from the initial lesions show an endo- and peri-arteritis of the superficial vessels, with a thickening of the walls and infiltration of the adventitia, similar to that in the initial sclerosis seen in man. The article is illustrated with some very interesting photographs.

**Asepsis in Catheterization.**—An ideal lubricant for catheters and sounds, recommended by L. CASPER (Deut. med. Woch., Vol. 29, No. 46) consists of a mixture of glycerin, water and tragacanth, together with mercury oxycyanate 1 in 500. This does not irritate the urethra, renders the instruments very smooth and slippery, is readily soluble in water and dissolves as soon as the instrument is inserted into the bladder, without obscuring the view through the cystoscope. In place of boric acid for washing out the bladder he prefers mercury oxycyanate, 1 in 5,000. This is non-irritating, does not injure the instruments, and although not a strong antiseptic, is yet sufficient to inhibit the growth of microbes. His method of sterilizing catheters and cystoscopes is as follows: The parts are rubbed with three gauze sponges dipped in tincture of green soap, using each one for a minute. The instrument is then wrapped in a compress impregnated with the same material and kept in this until needed. Whatever parts can be removed are boiled for five minutes.

**Prevention of Iodism.**—This is the effect of the iodized alkalies suddenly flooding the organism and pouring out through the mucous membranes. F. LESSER (Deut. med. Woch., Vol. 29, No. 46) believes that this afflux of alkali is what causes the catarrhal condition in the mucous membranes and leads to iodine intoxication. He suggests as a prophylactic measure that the iodine salts be administered in a mucilaginous vehicle in order to render absorption more slow and gradual. In some cases it may be advisable to give the iodine per rectum where absorption is also slower. Another prophylactic measure is to use the iodine in the form of iodized fats or the injection of iodipin. In cases of pronounced idiosyncrasy, the latter may be used at first in small injections in order to accustom the organism gradually, and then the internal administration may be gradually substituted.

## EYE, EAR, NOSE AND THROAT.

**Etiology of the Hyperplasia of the Pharyngeal Tonsil.**—From a consideration of the most recent views advanced, the following conclusions as to the origin of this condition are proposed by T. J. HARRIS (Am. Med., Jan. 2, 1904): The first claim is that the pharyngeal tonsil possesses a distinct function. This function is of the nature of a defense against the entrance of bacteria and consists in a certain irrigation of the tonsil surface by a lymph stream loaded with lymphocytes. This protection function carries with it the inherent qualities of the tonsil to enlarge on the slightest irritation for the affording of further powers of defense. This inherent tendency of the tonsil to enlarge is further seen in the frequent recurrence of the tonsil after removal. Strictly speaking, he claims that such enlargements are not a pathological, but a physiological process.

**Subconjunctival Injections in Ophthalmic Therapeutics.**—C. S. BULL (Trans. Am. Ophth. Soc., 1903) reviews the extensive literature of this subject, and arrives at the following conclusions from his own experience: That the efficiency of the various solutions injected beneath the conjunctiva—sodium chloride, sublimati, mercuric oxycyanide and hetol, all of varying strengths, cannot be ascribed to the increased local acceleration of the lymph currents, nor to the antiseptic action of the remedies employed, since the presence of such processes cannot be demonstrated in the tissues of the eye following the injections. The chief change seems to be in the composition of the aqueous humor, which is said to become richer in albuminoids, in combination with which there may be an appearance of certain protective substances, as is believed to be the case in the blood. Sodium chloride and mercuric oxycyanide solutions were of little value in keratitis, uveitis, detachment of the retina and panophthalmitis. Hetol or sodium cinnamate in a 1-per-cent. aqueous solution seemed to be of benefit in acute inflammations of the uvea, in hastening the process of absorption, it was apparently of no use in chronic cases, notably in scleritis, nor in two cases of tuberculous disease of the iris and choroid. In several cases of orbital cellulitis of an infectious character, however, subconjunctival injections of a sublimate solution (1-1,000) did exert a very favorable and unusually rapid effect in hastening the suppurative stage, in reducing the dense infiltration of the orbital cellular tissue, and thus aiding in restoring the circulation to the strangulated parts.

**Possible Etiological Factor in Tobacco-alcohol Amblyopia.**—G. E. de SCHWEINITZ and EDSALL (Trans. Am. Ophth. Soc., 1903) attempt to throw some light on what the possible poison may be which produces one or the other of the many changes which have been described by many authors in the optic nerve fibers, or the ganglion cells of the retina, and which manifest themselves by the clinical symptoms. Horner long ago, and de Schweinitz in 1900, suggested that the disease depended on a species of auto-intoxication, and the investigations of Sachs and Casey Wood indicate "that certain stomachic toxins are capable of causing in animals blindness, probably of the type now under consideration." The details and results of seven cases do not lend themselves to an abstract. Suffice it to say "there were evidences of a marked disturbance of digestion or of metabolism, or of both." The authors continue: "This view is entirely in consonance with the results of investigations concerning the manner in which other toxic effects of alcoholism are produced, and it also accords with our knowledge of the effects of some other chronic poisonings. Enlargement was easily recognizable in three of these cases, also some tenderness of the liver, and all had marked urobilinuria in addition to the evident disturbance of the alimentary tract. In certain cases the improvement in vision corresponded to the disappearance of the morbid condition of digestion.

**Tobacco Nerve Deafness.**—WYATT WINGRAVE (Ann. of Otol., Rhinol. and Laryngol., Sept., 1903) gives the results of his observations of 17 cases as follows: (1) That they were all well-marked cases of nerve deafness (unattributable to other causes) occurring in heavy smokers; (2) that the loss of low tones in 50 per cent. suggests an auditory equivalent for a recognizable ocular lesion; (3) that the disease was symmetrical; (4) that

there was impairment of color sense in 8 of them, and definite scotoma in 4 cases; (5) that 80 per cent. showed marked improvement on abstinence from tobacco, supplemented by drug treatment; three were cured.

**Ocular Complications of Scurvy.**—The external diseases of the eye following scurvy, such as hemorrhage beneath the conjunctiva and keratitis, have been more frequently described than the affections of the deeper parts. This is probably because epidemics of scurvy were more frequent during the pre-ophthalmoscopic days when deeper lesions of the eye were not recognized. WEILL (Zeitsch. f. Augenheilk., May, 1903) examined the eyes of 61 prisoners with scurvy, and found that three had marked optic neuritis and two retinitis. Except for one case of neuritis in a man of sixty years, which passed into atrophy, all recovered with normal vision under treatment directed to their general condition. It is striking that in none of these 61 cases was there any external ocular sign of the disease, while in another epidemic FIALKOWSKY (Centralbl. f. prakt. Augenheilk., 1880) found only hemorrhages of the lids and conjunctiva and keratitis.

**Antitoxine Treatment of Hay Fever.**—For several years Prof. Dunbar, of Hamburg, has been experimenting with a proteid substance which he has isolated from the pollin of rye, wheat, and other gramineous plants, and which, when applied to the nasal mucous membrane of a person subject to hay fever, causes all the symptoms of that disease. To secure an antitoxin he injected this substance into animals and after large doses had been thus injected he found that the blood from these animals exerted a marked effect in allaying all the symptoms of hay fever. Good results were obtained early this summer by Dr. Emil Mayer in several cases when treated by this antitoxin, and A. W. MACCOY (N. Y. Med. Jour., Nov. 21, 1903) now reports the results which he obtained upon 15 cases belonging to the late summer type of hay fever. He says that the effect was so promptly manifested, the relief so complete, and the result so permanent for this season, that it appears really marvelous. Thus far it has not been demonstrated whether there are several kinds of toxins causing these disturbances, but it is probable that there are, and that more than one kind of antitoxin will be required to cure all cases of hay fever.

**Eumydrin, a New Mydriatic.**—This lately devised product has been subjected to practical clinical tests by LINDENMEYER (Berl. klin. Woch., Nov. 23, 1903). This preparation is made from atropine, the chemical composition of the latter being changed to such an extent that its action on the central nervous system is entirely done away with, while the effect on the peripheral nerves remains. The toxicity of the new drug is claimed to be fifty times less than that of atropine itself, and in no case were any unpleasant after-effects observed. Solutions of various strengths were employed, from 1 to 10 per cent. The author believes that the drug is a valuable addition to the materia medica, producing mydriasis and paralysis of accommodation in a shorter time than is possible with atropine, although the paralysis is of somewhat shorter duration. It was also found to be efficacious in weak solutions to combat irritation produced by foreign bodies, phlyctenulæ, etc. With the strong solutions it was possible to break up fresh synechia after two or three applications. Another point demonstrated was that in those cases where on account of some idiosyncrasy on the part of the patient it was necessary to interrupt the continuous employment of atropine, eumydrin proved a very efficient substitute.

**Shortsightedness in School Children.**—In concluding his very instructive article on the examination of 200 school text-books from a sanitary point of view, A. RAMMUL (Russ. med. Rundschau, No. 14, 1903) draws particular attention to the fact, as substantiated by many prominent investigators, that shortsightedness in children either originates or develops in school. The chief causative agency therefore is to be found in too prolonged reading, writing and drawing, whereby accommodation as well as convergence are greatly fatigued. Undue strain of the muscles of accommodation causes an active hyperemia, the return flow of the venous circulation is greatly hindered, there is an increase of the intra-ocular pressure and the sclerotic is gradually stretched. Too strong convergence works even greater harm for the eye in various ways. It must also be observed that in some of the children shortsightedness is hereditary and they become affected so much sooner than their healthy comrades. In addition to the above cause producing shortsightedness, mention must be made of poor or insufficient lights with which many school buildings are supplied; the same may be said of unhygienic school furniture. As regards the influence of books on the eyesight the author insists that paper should not be polished, for under artificial light a polish on a paper prevents the eye from seeing well and necessitates moving the book to and fro, as well as frequent changes in the position of the head. Again, the paper should be thick enough to prevent the printing of the next page from intruding itself upon the reader's eye. Although a few authors recommend yellow paper, the majority speak in favor of white, for the contrast between the print and the paper is so much more striking the whiter the paper.

**Rupture of the Sclerotic in a Staphylomatous Eye.**—Ruptures of the sclerotic are comparatively rare, and are but seldom mentioned in ophthalmological literature. In the case described by L. M. FRANKEL (Prak. Vrach, Oct. 11, 1903) there appeared post-traumatically a severe hemorrhage from the left eye, which was soon controlled by the author by pressure on the eyeball. Examination revealed a complete staphyloma of the cornea, at the external canthus superiorly there was a rupture of the sclerotic of 8 to 9 mm. long with smooth even edges. The patient has had the staphyloma for over fifteen years. He was advised to undergo the operation of evisceration of the eyeball, but he consented only on the fourth day after the occurrence of the trauma. The operation was performed under chloroform after Arlt's method, the only difficulty encountered was in the fact that the eyeball was soft and contracted. The postoperative course was uneventful, and on the twelfth day patient left hospital, and was able, six weeks later, to return to his occupation, that of a packer.

## THERAPEUTICS.

**Calomel in Pneumonia.**—The use of calomel in pneumonia has been reported and recommended favorably for some time past by C. BERTAZZOLI (Gazz. d. Osp., Nov. 15, 1903), and his present investigation is based on an experience with six cases. He does not consider the drug as specific, but is quite certain as to its beneficial effect in this disease. The remedy should be administered in generous doses and should be accompanied by such other drugs as provoke energetic peristalsis, so as to procure its complete elimination from the organism. Thus a double advantage is gained: The calomel is permitted to exert its good effect, and is at the same time not allowed to be absorbed by the system. The author prefers to administer it together with scammony, because they are both compatible, and also because of the latter's action on the intestines. The effect of calomel is principally that of an antipyretic, and at the same time it seems to cut short the further spread of the inflammatory process. The author describes its action as that of an intestinal derivative, and as he is convinced that the intense headache of pneumonia is

largely due to cerebral congestion provoked by the obstruction of the lesser circulation, as conditioned by the state of the lungs, calomel depletes the congested area by driving the blood to another portion of the body. With the headache there disappears rapidly the delirium, and the temperature falls and stays lower than it was before the administration of the drug. In calomel we possess one of the most energetic drugs in our armamentarium: It is an efficient diuretic, exerts an undoubted effect on the vasomotor system, is an active purgative, and a reliable disinfectant.

**Infantile Eczema.**—The following is applied morning and evening by COMBY (Le Progrès Médical, Nov. 28, 1903):

℞ Acidi salicylici ..... 3.0 (gr. xlv.)
Zinci oxidi ..... 3.0 (gr. xlv)
Adipis lanæ hydrosi .....10.0 (℥ iiss.)
Petrolati .....20.0 (℥v.)

In addition he powders the regions with

℞ Acidi salicylici ..... 1.0 (gr. xv.)
Amyli
Talc
Lycopodii .....aa 20.0 (℥ v.)

**Treatment of Epilepsy.**—M. LAUFENAUER (La Méd. Moderne, Oct. 21, 1903) recommends the double bromide of rubidium and ammonium in the treatment of epilepsy; he has seen decidedly better results with this salt than with other bromides. The action is in the main the same, since the rubidium does not exercise any specific effect. The daily dose is four to seven grams; four to five grams given at night is an excellent hypnotic.

**New Nutrient Enema.**—This nutrient enema is recommended by A. SCHMIDT (Münch. med. Woch., Nov. 24, 1903), and is of the following composition: Dextrin, 50 gme. (2⅔ ozs.); Nährstoff Heyden, 20 gme. (⅔ oz.); solution sodium chloride 0.09 per cent., 250 c.c. (8 oz.). This is filled into sterilized glass tubes which need only be placed in warm water before use. Each enema corresponds to 287 colories. If the rectum is washed out several hours after an enema is given, only traces of its ingredients can be detected chemically, since absorption is almost perfect without irritation of the rectum.

**Modification of the Toxicity of Poisons by the Addition of Non-poisonous Substances.**—E. LESNÉ and C. RICHET (Arch. Internat. de Pharmacodyn., Vol. XII, fasc. III and IV) find that by adding chloride of sodium to certain poisons, such as iodide of potassium, chloride of ammonia and cocaine, given orally or by intravenous injection, their poisonous properties are considerably reduced. Urea and the sugars act similarly, but not to the same degree. In mice, salt also diminishes the toxicity of strychnine, if it is injected half an hour before the alkaloid. The toxicity of urine is also lessened, but that of its alcoholic extract increased. It is probable that the animal cells, when saturated with chloride of sodium, are unable to take up as much poisonous substance as normally. The infrequency of uremia in patients with marked edema finds a ready explanation since it has been shown that retention of chlorides in the system is the cause of the edema, for the cells, already saturated with salt, do not so readily fix the urinary poisons.

**Poisoning with Nitrites.**—In poisoning warm-blooded animals with nitrites some will develop anesthesia, narcosis, somnolency and apathy, while others will die in most severe convulsions. E. HARNACK (Arch. Internat. de Pharmacodyn., Vol. XII, fasc. 3 and 4) believes the latter symptom is not due to the nitrite itself, but to ammonia, which is always formed if larger doses of nitrite are given. The specific action of nitrites is due to a rapid and almost complete reduction in the system, manifesting itself by the appearance of methemoglobin and by the absence of nitrites in blood and urine soon after ingestion. In small amounts the cause of death is the withdrawal of oxygen alone; in larger doses, the reduction products, among which ammonia is the most important, are fatal also. There are few organic substances which are so intensely toxic as the nitrites, since death may follow in fifteen minutes.

**Tobacco Smoking.**—Besides nicotine, tobacco smoke contains nicotianine, collidine and other pyridine derivatives, acids, resins, carbon dioxide, prussic acid and ammoniacal salts. Two drops of nicotine placed on a dog's tongue produce in succession efforts to swallow, great weakness, convulsions, and death, in less than a minute. Eight drops will kill a horse. Tobacco contains from two to eight per cent. of nicotine, and Le Bon has determined that though most of this is changed in smoking, it appears as other pyridine bodies which are just as poisonous. PETIT (Le Progrès Médicale, Nov. 28, 1903) finds that these bodies do not condense much in the warm mouth, so are mostly exhaled, therefore the physiological effect of ordinary smoking is not a marked one. Susceptible persons may, however, be much affected by breathing the air of a room in which there is much tobacco-smoke. The action of nicotine, as is well known, lies between that of the bromides and digitalis. It soothes the nervous system, but causes a powerful and rapid contraction of the vessels, and a rise in blood-pressure. Among its dangers, therefore, one of the best known is angina pectoris, perhaps due to spasm of the coronary arteries. Through prolonged use it promotes the development of arteriosclerosis. It is a habit-drug like opium, cocaine and alcohol, and its devotee loses the force of will necessary to stop the habit, though he knows it is harming him. The smoking acts also in depriving the smoker of oxygen, for the burning tobacco develops carbon dioxide and the red blood corpuscles do not form their full amount of oxyhemoglobin. In small doses the respiration is accelerated, in large dose depressed. There is apparently no bactericidal action on any microorganisms in the lungs. One of the first effects of an overdose is nausea, and prolonged smoking is a distinct factor in the production of digestive troubles.

**Quantitative Determination of Pepsin.**—Compared with the accurate methods we possess to determine the amount of acid in the gastric juice, the estimation of pepsin, though almost equally important, is more difficult, as hitherto impossible by volumetric means. F. VOLHARD (Münch. med. Woch., Dec. 8, 1903) finds that pure casein is readily precipitated by means of sodium sulphate, but if digested with pepsin, the amount of precipitate will gradually become less. The filtrate will turn more acid as the casein is peptonized and titration will give a ready index of the amount of pepsin present. One hundred cubic centimeters of a solution containing 100 grams of casein in 1,760 c.cm. of water and 140 c.cm. of normal hydrochloric acid, are diluted with gastric juice and water up to 300 c.cm., and kept at 40° C. The casein is then precipitated with 100 c.cm. of 20-per-cent. solution of sodium sulphate and finally the acidity is determined in 200 c.cm. of filtrate. The amount of juice used and the time of digestion form the figures for a mathematical formula which admits of ready calculation.

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**SATURDAY, JANUARY 30, 1904.**


## THE POSSIBILITIES OF GASTRIC SURGERY.

THERE is an untrodden tundra in which diagnosticians must wander for many years before some satisfactory position in the rational care of gastric diseases is reached.

Dr. John B. Murphy, in the *Annals of Surgery* for December, writes that at the present time the surgical diseases of the stomach which are brought to the surgeon's notice, may be classified as follows: (1) Gastric carcinoma, (2) gastric ulcer, (3) pyloric obstruction, (4) pyloric retention, and (5) gastro-duodenal or pyloro-duodenal lesions. "If surgery," he says, "is to accomplish for the stomach all that it is capable of, the frequency with which the surgeon deals with the stomach must be for lesions in substantially the reverse order. If the first three of this reversed classification be early and properly treated from a surgical standpoint, the surgeon will be consulted very much less frequently for carcinoma of the stomach. Thirty-five per cent. to 45 per cent. of all carcinomata occur in the stomach; from one to three and a half per cent. of all deaths are caused by this disease."

Dr. W. J. Mayo, of Rochester, Minn., has shown a mortality of only 15.5 per cent. in 109 cases of carcinoma of the stomach. This, from a purely technical standpoint, is a remarkable record and shows to what a degree of perfection the art of mere removal of the growth has been brought. The final results, however, even in these cases, are profoundly discouraging. Even to the most hopeful they show that surgery, under the present limitations, has reached the bourne beyond which it cannot hope to pass. Improvement in final mortality rates must come either from a protection of the individual from cancer-producing conditions, or from pronounced improvement in our ability to diagnose the early stages of the disease.

Dr. Murphy in his characteristically urgent and appealing style, forces the blunt, but as yet imperfectly recognized truth that there is a distinct cancerous symptom complex, which in a post-mortem review of the case can almost invariably be traced. This complex is not, in his own words, "manifested as a thunderbolt from a clear sky," but is characterized by a special train of gastric symptoms that have existed in many cases for years. Irritations and retentions in the stomach play the same rôle in the production of carcinomata here as the pipe on the lip, the gallstone in the bladder, the feces in the colon. What are the symptoms, he asks, which manifest themselves after the penetration of the basement membrane by these erratic epithelial cells? Do we, in other words, recognize the transition from precancerous conditions to cancerous?

Based on the reports from Mayo Robson's clinic, at which 101 cases of posterior gastro-enterostomy were done with but 3.9 per cent. mortality, and 20 cases of pyloroplasty without a single death, it is extremely conservative to say that exploratory operations on the stomach are practically danger free. If 100 cases showing symptoms of very slight pyloric retention could be operated upon, an exploratory laparotomy for diagnostic purposes could be done, a large longitudinal gastrotomy with subsequent inspection of the gastric mucosa would be possible with a likelihood of death in but perhaps a single case. If the hundred cases so treated were on the other hand left either to themselves, the ultimate mortality would be many times greater. Mayo Robson concludes that an exploratory operation must be performed early in order to permit of a sufficiently radical operation being done to make such treatment worthy of execution.

Von Milkulicz has estimated that four or five per cent. of the race suffer from gastric ulcer and one-fifth die as the result of these gastric ulcerations. Carcinoma may then be considered as proved in many cases, to be due to a subacute

irritation of normal or cicatricial epithelial surfaces. Retention is undoubtedly a very important etiological factor in causing irritation, not alone by the mechanical stimulus of the retained food particles, but by the chemical etching of the part, by the acids of decomposition.

With such men as Mayo, Mikulicz, Murphy, Czerny, Mayo Robson and Moynihan, urging the profession to make use of exploratory laparotomy in doubtful cases of gastric disease, is it not time that more general heed be given to their counsels? They have demonstrated we believe without the possibility of error their ability to consummate with almost no mortality the most profoundly difficult gastric operations. Five per cent. of all people have gastric ulcers. A large but unknown number of these cases develop carcinoma. Welch states that 3.5 per cent. of all deaths are caused by this disease. Can any impartial judge hear the testimony of these men and yet decide that the course at present adhered to by the majority of the profession is not at variance with the best interests of the community?

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### TYPHOID FEVER.

THE *Practitioner* for January is devoted entirely to a consideration of typhoid fever. From remote quarters of the globe, as well as from England and America, over a dozen eminent physicians have united in discussing the occurrence, treatment and prophylaxis of what has well been termed the "ubiquitous" disease. All join in emphasizing the need and value of advanced sanitary precautions as the only means by which the disease may be held in check.

From the Far East we learn that, contrary to the former belief, typhoid fever is a common disease in India; natives and newly arrived Europeans frequently are sufferers. The natives of Egypt seem to enjoy immunity. Typhoid prevails in China chiefly among foreigners who import the disease into the country. The Chinese, unlike the Egyptians, are plainly susceptible to typhoid, but they seem to be protected by their habit of avoiding milk and the use of unboiled water for drinking and culinary purposes.

The typhoid fever which occurred among the British troops in the South African war is believed to have been due largely to impure water supplies, absence of sewerage systems, camp infection, flies, dust, and the want of such sanitary protection as is commonly afforded in cities. It is likely that all great wars will be notorious for typhoid fever, unless a complete sanitary administration can be formed to deal more adequately with the enteric fever problem than has been seen in the field in the past. A hopeful outlook toward better results is afforded by the fact that the sanitation of British camps is in the future to be entrusted to a newly created Sanitary Officer of the Royal Army Medical Corps.

Although municipal sanitation has well-nigh banished typhoid fever from some cities, it is significant to note that it does occur sporadically even in London. The small number of cases there is ascribed less to the water and milk supplies than to infected oysters and other shellfish and to what is termed "contact." By contact is meant the transmission from person to person in households, through carelessness in handling infected articles and destroying the germs of the disease. There seems little doubt but that typhoid fever spreads to a far greater extent in households than is commonly believed, a large number of instances of such transmission being available.

If typhoid is to be suppressed, it is essential that all avenues of transmission be recognized and rigidly closed. This means that established scientific facts must be acknowledged, whether they seem to agree with a former belief in the etiology of the disease or not. While no epidemic disease can be more easily controlled and prevented than typhoid, few are capable of creating greater ravages in houses, streets, hospitals, camps and cities.

Something has been done to afford individual protection from typhoid fever by the use of antityphoid inoculation, or, as it may properly be termed, vaccination. The results which have been accomplished in the South African war with antityphoid inoculation appear to have been excellent. The immediate effects of vaccination are extremely unpleasant, but for soldiers and others who expect to be especially exposed to infection, the uncomfortable consequences which temporarily follow vaccination should be more than offset by the permanent benefits afforded.

The present tendency in the treatment of typhoid is toward greater attention to the individual case, and the substitution of simple methods of diet for drugs. The watchword in the typhoid wards of Johns Hopkins Hospital is "More water." It is usual at this institution to urge upon patients about as much cold water as they can be prevailed upon to consume. The immersion bath is standard treatment; it is customary in Osler's wards to tub the patient every three

hours when the temperature is 102.5° F. or over, but more than seven baths per twenty-four hours are never given. The first bath should be 85° F. and each succeeding one 5° F. lower until the most suitable point is reached. Patients are never permitted to walk to the tubs.

Complications in typhoid fever, and correct methods of nursing and surgical treatment, are becoming more and more generally understood and practised. Rigors, apart from any recognizable complication, while alarming, need not be considered dangerous. It is imperative that the diagnosis of perforation should be made at the earliest possible moment, in order that surgical treatment may be resorted to without an instant's loss of time.

The nature of typhoid fever is coming to be recognized as a special septicemia, whose particular locus is in the intestines. Numerous differences exist among the forms which the disease takes, and it seems desirable to divide it with reference to the specific organisms whose products cause the pyrexia. One of the most clearly recognizable differences from standard typhoid is called "paratyphoid" or "paracolon" fever, a disease which resembles typhoid in its clinical course and main characters, but which is caused not by the *Bacillus typhosus*, but by another member of the great colon group to which this organism belongs. Owing to the widespread occurrence of both typhoid and paratyphoid bacilli, the Widal test of blood for diagnosis should be made not only with the regular *Bacillus typhosus* but with the bacillus of beta paratyphoid as well.

## ANNUAL MEETING OF THE STATE MEDICAL SOCIETY.

THE feature of the ninety-eighth annual meeting of the Medical Society of the State of New York was the adoption of the agreement which had been reached by the Joint Committee of Conference appointed by the State Medical Society and the New York State Medical Association for the purpose of bringing about the consolidation of the two organizations. The unanimous vote on the resolution followed by prolonged applause practically proclaimed the end of medical disunion in New York State—we hope forever. There is still of course the formality of having the State Medical Association adopt the committee's report, but of that there seems no reason for doubt. An unfortunate division that has lasted twenty years is thus brought to an end and the medical profession of the great Empire State will very shortly be able to get away from the undignified position it occupied and which did so much to impair its influence.

The first proof of the new and more satisfactory status of the profession of the State came when without any hesitation or demurrer the two houses of the legislature passed the enabling act for union within a few hours of its introduction, which the Governor as promptly signed. In the past New York legislators have promised that when the united medical profession of the State would come to them for legislation there would be no procrastination in granting it. The present legislature has fulfilled this promise of former bodies and thus given a lively presage of what the undivided regular profession hereafter will be able to accomplish. The scheme of union eventually evolved is of itself an excellent proof of the administrative ability of medical men and is also an earnest for future progress in the organization of the profession. Many, many difficulties had to be met, many delicate questions faced, and problems solved. It has all been well done and the Joint Committee of the two organizations deserve the congratulations as well as the thanks of their professional brethren.

President Hadley's general address at the evening session of the first day's meeting was one of the most important contributions to a true theory of professional education that has ever been voiced before a medical audience at least. His subject was "Conflicting Claims of General and Professional Education." He insisted especially that while early devotion to a profession might make the student a better and an earlier money getter, it did not make so good a man of him. As far as his own personal satisfaction in life and the possibility of making him capable of breadth of view, wide sympathy with his fellow-man and a useful citizen of the commonwealth the narrower professional education was a mistake. The sooner a man's mind turned to his life work the better, but the longer he delayed the narrowing influence of an active professional career also the better.

President Hadley did not hesitate to say that the same premature professionalism has impaired the usefulness of the legal professions. There are more lawyers with large incomes, but fewer Websters and Calhouns than in the old days when the commercial spirit was not so dominant. The motive to make money is not unworthy in itself and when prompted by the

desire to support the family in proper dignity it is even noble, but when it becomes the motive to the exclusion of all others life is not worth while and man's place in the community is lowered to an unworthy degree. President Hadley does not favor the shortening of the college course so as to enable students to begin their work in professional schools sooner, but believes in having many studies undertaken with broader view in the college department count in the medical curriculum. For him anatomy or chemistry studied in the non-professional course is sure to be of more true educational influence than if studied after the specialistic methods of the medical school.

Dr. Algernon T. Bristow's address as retiring President was one of the best of the Presidents' addresses at any Society meeting in recent years. Its subject was "The Status of the Medical Expert." It was an eminently illuminating exposition of one of the saddest phases of modern medicine and at least the abstract which we present should be read by every medical man with the interests of the profession at heart. The Scientific business of the session generally was of very high order. The symposia on Diabetes, on Abdominal Pain and on Nephritis shared in by some of the best special authorities on the various subjects were full of practical interest and suggestions. They contained very little that was mere repetition of previous knowledge and still less of mere conventional information. The sessions were all well attended, even to overflow in the afternoons and evenings, and the Medical Society just before it turns over the new leaf that makes it really the representative of all the regular profession has given an excellent proof of the vitality it retained during all the years of individual existence.

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## DENTISTS AND PHYSICIANS.

Now that the conditions of the practice of medicine have improved to such an extent as to eliminate many of the evils of a former time it is important also that the practice of dentistry on the highest ethical lines, as a significant department of medicine, should be encouraged by the physician. In recent years the possibilities of even serious gastro-intestinal disturbance as a consequence of bad teeth have come to be generally accepted by conservative medical men. It is not alone that the teeth are an important digestive organ, quite as indispensable for the preparation of food as the stomach itself, but also the presence of carious teeth furnishes a very favorable culture medium in the mouth on which large numbers of bacteria are constantly multiplying and carried down into the lower digestive tract where they may work very serious harm. Whether the contention that this may even cause pernicious anemia be true or not there is no doubt of the possibilities for evil it involves.

All of us have had the experience of discovering that an obstinate case of indigestion, which resisted all ordinary medical treatment, yielded promptly when the patient was provided once more with a proper mastication apparatus and the food was duly prepared for the stomach's action. On the other hand, very few physicians have failed to have the unfortunate experience, after advising patients to consult a dentist, to find in a very short time that the work done within the mouth was not of a kind to give any fair promise of lasting benefit. Dentists either incapable or so hurried that they do not do justice to their patients often make matters worse after slight temporary improvement, to the utter discouragement of the dyspeptic patient, already sufficiently downcast as a result of his stomachic condition.

At the present time, in the large cities of this country particularly, advertising dentists who offer bargains in dentistry are so common and their notices so prominent that many people, if advised to go to a dentist simply without any further directions in the matter, will be almost sure to consult one of these advertisers. As might be expected under the circumstances, the work is botched, for advertising is costly; inexperienced assistants are employed; the operators being very often young and comparatively untried dentists—recent graduates who have not as yet had opportunities that enabled them to judge how teeth should be treated. The consequence is that not infrequently too large fillings are inserted after the destruction of portions of the teeth that need not have been sacrificed, and these fillings are inserted with such lack of skill that within a few months, at most a year or two, the teeth, in worse condition than ever, require to be cared for once more.

No physician at the present time should ever treat a patient complaining of symptoms of indigestion without a thorough examination of the teeth. If the teeth present are insufficient for proper mastication, or if there are carious teeth the patient should at once be recommended to consult a good dentist. It is not, however, sufficient

simply to suggest any dentist, but the patient should be given a good idea of the risk involved in consulting anyone but some member of the dental profession who is thoroughly responsible and whose skill can be relied upon to do what is best for the patient. There is no doubt that physicians can in this way contribute in an important degree to the uplifting of the sister profession of dentistry and enable it to escape some of the demoralization incident to the large number of bargain-counter dentists in the field.

## ECHOES AND NEWS.

### NEW YORK.

**German Hospital Appointments.**—Drs. Richard Weil and Otto Hensel have been appointed Pathologists to the German Hospital.

**Alumni Association of the College of Physicians and Surgeons, New York.**—A smoking concert, under the auspices of the Alumni Association, will be held at Sherry's, Fifth avenue and Forty-fourth street, Monday, February 8, 1904, at 8:30 P.M. Vaudeville entertainment and supper. Tickets may be obtained by sending $2 to E. T. Boag, Registrar, 437 West Fifty-ninth street, New York City, on or before Friday, February 5.

**Home for Convalescent Children Given to Orthopedic.**—It was announced last Monday at the annual meeting of the New York Orthopedic Dispensary and Hospital, No. 126 East Fifty-ninth street, that Miss Emily A. Watson had given $100,000 to the institution, for the establishment of a branch at White Plains. Miss Watson has also agreed to endow the new home with a fund of $250,000, which makes the total amount of her gift $350,000. She is a member of the hospital Board of Supervisors. The new home will be called the Country Branch and Industrial School." Here convalescent crippled children will be sent, and they will receive an industrial education, besides medical care. Several years ago Miss Watson gave $60,000 to the hospital.

**Cornell University Medical College.**—The Faculty of the Cornell University Medical College has inaugurated a new scheme in the lines of instruction given by the subordinate professors and their assistants. There are a number of these men who are conducting more or less specialized lines of research in which they excel, and it has seemed desirable to give the students the benefit of the instruction these men are capable of giving and at the same time present a summary as well as detailed knowledge of all the advances made in the different branches in which these professors are experts. In the Department of General Surgery, Prof. Stimson has requested Prof. Kammerer to give the students the benefit of his knowledge upon intestinal obstruction, and Prof. A. B. Johnson upon the surgical disorders of the breast. In General Medicine, Prof. Thompson has asked Dr. Connor to do the same for the subject of the ductless glands, and Dr. Camac will take up the practical aspects of infection and immunity. In General Pathology, Prof. Ewing will inaugurate the work by lecturing himself upon the scientific mechanism of immunity. Dr. Schlapp will follow with a few lectures upon localization in the central nervous system, and Dr. Schultze will end the course with a few lectures upon cerebral hemorrhage, for which he has perhaps the best collection of gross specimens in the country. These lectures will be delivered before the fourth and third year classes of the college. Some of the subjects, however, are of such general interest that invitations will be sent to all members of the Faculty and practitioners who may be interested.

**Columbia University.**—At a meeting of the trustees of Columbia University, held on January 4, 1904, it was voted to fix the annual fee for tuition in the Schools of Applied Science and in the College of Physicians and Surgeons at $250 from and after July 1, 1904. The annual tuition fee in these schools is at present $200. Since the present fee was fixed the equipment of Columbia University in these departments has been greatly increased, and the number of instructors multiplied. The cost of giving the instruction in applied science and in medicine has steadily grown year by year, and is now not less than twice the amount received from fees for tuition. The tuition fee at the Massachusetts Institute of Technology is already $250, and the fee for New York students who attend the Stevens Institute of Technology at Hoboken is $225. The per capita cost of instruction at Columbia is believed to be greater than that at either of the institutions mentioned. Because of the recent changes in the curriculum at the College of Physicians and Surgeons and because of the new requirements for admission, the per capita cost of instruction there has been increased greatly also. Because of the ample provision made at Columbia University for scholarships which meet the cost of tuition, and for assisting students to pay their own way while taking a university course, it is believed that no deserving student will be deprived of the privileges which Columbia University offers because of the tuition fee.

**Charities Report to the Commission in Lunacy.**—The eleventh annual report of the State Charities Aid Association to the State Commission in Lunacy has just been issued. Regret is expressed at the failure of the legislature to take favorable action on the bill providing for the establishment of a reception hospital for the insane in this city. The establishment of such a psychopathic hospital has been urged for years by the State Charities Aid Association. Gov. Odell, in his annual message to last year's legislature, expressed himself in favor of the recommendations made, and the legislature for years has committed itself as favoring such a measure, but has done nothing to provide the necessary funds, $300,000, called for in the bill. The report contains the recommendation that an earnest effort be made during the present year to carry the plans for the reception hospital into effect. There should be one such hospital in Manhattan to accommodate about 200 patients, and another in Brooklyn to accommodate about half that number. It is further recommended that these hospitals be located in that portion of each borough, easy of access, and be organized and equipped like other hospitals for the treatment of mental diseases. A measure that meets with the unqualified commendation of the association is the creation by the legislature of the office of Medical Inspector to the State Commission in Lunacy. This State, it is declared, has a smaller representation of the medical profession on its commission than any other, despite the well-known fact that where medical men form a large part of the State commission "there is less danger that the scientific care of the patients will be subordinated to business interests than where the proportion of medical men is reduced to a minimum."

**Work of the Crippled Childrens' Hospital at Tarrytown.**—The work accomplished by the New York State Hospital for the Care of Crippled and Deformed Children at Tarrytown, N. Y., is set forth in the third annual report of the institution. Dr. Newton M. Shaffer, Surgeon in Chief, makes an earnest appeal for the names and addresses of children who are fit subjects for the institution's care, the age limit being between four and sixteen years, while hopeless cases and children whose guardians are able to pay for treatment are barred. Although the hospital has accommodations for only 25 patients, 52 have been received during the thirty-four months in which it has been in existence. Of these 33 suffered from tuberculous diseases of the joints. There were 27 discharged, of whom 19 were cured, while all were more or less improved. There have been 18 surgical operations on 9 patients, with marked benefit in every case. The average time of treatment of those discharged has been fifteen months and eighteen days. Some of the children operated upon by Dr. Lorenz at the Cornell Medical College Clinic in this city in December, 1902, were cared for during recovery.

**City Hospitals Overcrowded.**—Bellevue and all its allied institutions are crowded to their full capacity, and to meet the overflow many patients now have to be accommodated on mattresses placed on the floors. The meeting of the trustees, which was informal, was productive of no definite action, but Superintendent Rickard said that on Wednesday, when another meeting of the board wll be held, a resolution will be adopted for presentation to Mayor McClellan, asking him to do what he can toward enlarging the institution's facilities.

A census of the patients at Bellevue last week showed that while there are 837 beds there were then 904 patients, the surplus being placed on the floors. Two hours later fifty more patients had been admitted, so that at 10 o'clock 120 patients were lying on improvised beds on the floor. At the Harlem Hospital, which has 44 beds, there were 45 patients. At the Fordham Hospital there were 43 beds and 42 patients. At the Gouverneur Hospital there were 82 beds for 84 patients. The overcrowding was still more emphasized by the report from the Blackwell's Island institutions. At the City Hospital, which has 629 beds, 48 patients were lying on the floor. In the Metropolitan Hospital with with 925 beds, there were 965 patients, 40 being forced to lie on the floor. An unusually large number of cases of pneumonia, amounting almost to an epidemic, has been the reason, according to Superintendent Rickard, for much of the present overcrowding. There are 200 pneumonia cases at Bellevue now. Of the fourteen deaths at the institution yesterday, six were from that disease.

**Lecture by Doctor Trudeau.**—On January 21, Dr. E. L. Trudeau, at the invitation of Professor James, lectured before the third and fourth year classes at the College of Physicians and Surgeons on "The Relation of Immunity to Pulmonary Tuberculosis." In introducing Dr. Trudeau, Prof. James spoke of him as a representative alumnus of the college, whose life had been given up to the study and prevention of a single disease. After a brief review of the various kinds of immunity, the speaker referred to the more recent work of Behring and to his so-called "Isopathic" immunity obtained in variola and anthrax. This protects longer than any other form and seems to come nearest to nature's method. It seemed a hopeless task to try to produce an artificial immunity in tuberculosis, when nature herself does not do it, but he was led to believe in the possibility from the fact that in autopsies healed foci are seen that remained healed, even though the patients were daily exposed to a reinfection. This was not an absolute immunity, but the resistance of the individual was increased to a point where he gained a victory over the incursion of the death-dealing germs. Referrng to the first crude and laborious attempt in starting a sanitarium at Saranac Lake, there were at least two things in the world that were never recorded, viz., resistance to temptation and the glory of honest but unsuccessful work. Everybody present knew how often he had failed and how it sometimes tempted him to become discouraged. In 1883 he began the experiment of inoculating rabbits with bacilli from birds. Rabbits were protected by the use of attenuated bacilli, and he is now able to get a vaccine eleven years old from bacilli no longer virulent, though having all the morphological appearances of the original. Seven years' work has failed to procure an antitoxin for tuberculosis, but the tuberculin treatment in his hands has been of some benefit, although it should be given only in selected cases, never to pyretic cases. Sanitarium treatment represents what we know; laboratory experiment what we hope for. It was necessary to prove that infection in a sanitarium is no more prevalent than anywhere, in fact, it is less so from actual experiment. The cottage plan of segregation with plenty of sunlight and air had helped to solve the problem Conditions necessary for successful treatment are: climate, rest, fresh air, food, and discipline. One great advantage of sanitarium treatment is that patients are not allowed to overexercise. If a man has any fever or spits blood he is kept quiet, and it is found that exercise is not necessary for him to keep up his appetite. When relapses occur from any cause patients are put to bed and kept in the open air; but everyone cannot sleep out-of-doors because some patients contract neuralgias, sleep badly and cannot get used to it. About 51 per cent. of all cases, however, do well under this method, even with the thermometer at 42° below zero. A series of beautiful lantern slides illustrating the grounds, buildings and general life at the institution completed a very interesting and profitable hour.

**Mt. Sinai Hospital's Year.**—It was announced by President Isaac Wallach, at the annual meeting of the Directors of Mount Sinai Hospital, held at 149 East Sixty-seventh street yesterday, that the hospital would probably move to its new buildings, Fifth and Madison avenues and One Hundred and First streets, about March 15 or 16. The entire subscriptions to the building fund aggregated $1,435,568.76 on Dec. 1, 1903, $152,139.64 of which was received last year. The expenses of the hospital for the last year amounted to $151,838.22, and the applicants for admission aggregated 6,496, of whom 3,540 were treated in the hospital. This makes a grand total of 76,891 patients admitted to Mount Sinai Hospital since its founding. Taking the patients treated in the hospital, the dispensary and outdoor department, 36,366 patients were treated last year, and the death rate was 10.34 per cent.

**Manhattan Dermatological Society.**—Regular monthly meeting was held January 8, 1904, at the residence of Dr. I. P. Oberndorfer; Dr. Oberndorfer presiding. The following cases were presented. Dr. J. Sobel presented a female, twenty years old, with an eruption of varying-sized patches and papules of a marked scaly nature; at first observed on flexor surfaces of arms, then on chest, back and extensor

surfaces of upper and lower limbs; the hair line on forehead is likewise scaly. Dr. Sobel was in doubt whether to call it a true psoriasis, a seborrhoid eczema, or an eczema seborrhoism psoriasiformis. Dr. Pisko thought he recognized some typical papules of psoriasis on knees and elbows; the atypical aspect on lower arms he considered due to effects of treatment. Dr. Oberndorfer also observed lesions of psoriasis; the thick crusting on the arms was unlike eczema seborrhoicum; the latter and psoriasis he recognizes as two distinct affections.

Dr. Gottheil placed this case on the boundary line of psoriasis and eczema seborrhoicum. Dr Sobel favored the diagnosis of eczema seborrhoicum, owing to the greasy condition of the scales; the involvement along the hair line of the forehead and the general oily condition of the skin.

Dr. W. S. Gottheil presented the following cases: (1) A boy of ten years of age, showing small, acuminated lesions, with central depression, from which sebaceous-like material could be expressed; situated on the dorsum of both hands, and present about eight years; some lesions disappear spontaneously. He termed it acne corneus. Dr. L. Weiss coincides with this diagnosis and stated that the condition was extremely rare. (2) A typical case of eczema marginatum; of interest was the extensive involvement; almost the entire back, chest and abdomen were involved. (3) A case of epithelioma (upper cheek near eye) in a male, showing excellent results from the use of Marsden's paste. (4) A typical case of lichen planus; the hands and feet well show the glistening, silvery appearance; lower arms and lower legs studded with innumerable papules, and the chest, abdomen and back showing isolated lesions; the mucous membranes of buccal cavity likewise involved. He gives large doses of a 1 per cent. sol. sodium arseniate, 40 to 45 drops, and patients stands the treatment well; no pigmentation following was observed. Dr. Pisko is using a solution of arsenious acid called atoxl also with excellent results. (5) A case of ulcerating lesions involving mucous membranes of the entire buccal cavity, including tongue, tonsils and epiglottis. The patient, a woman of thirty-five years, is asthmatic and poorly nourished, suggestive of tuberculosis, although the lungs show nothing positive. With antisyphilitic treatment conditions became worse; patient now on local soothing applications, with little or no improvement within the past six weeks. A laryngologist pronounced the condition probably pemphigus. Drs. Pisko and Sobel both entertained the latter diagnosis; mouth pemphigus alone is possible without any skin lesions. Dr. Oberndorfer regards it a severe stomatitis; its chronicity could be explained by the poorly nourished state of the patient, who might be tuberculous. Dr. Weiss asked: Is this a case of foot and mouth disease? In tuberculosis of these parts he expected to find the rim of the epiglottis involved. Dr. Abrahams suggested a chronic herpes.

Dr. A. Bleiman showed a man of fifty-four years with superficial ulceration involving roof of mouth adjacent gum, soft palate and neighboring left tonsil; present about one year and about stationary; he sought no advice until three weeks ago. Patient gave an indefinite history of lues contracted thirty-five years ago, but in this long interval never showed any of its manifestations. Condition gives rise to no inconvenience. The right and left side of neck each show an immense enlarged gland. Tentatively placed on KI, patient begins to show slight improvement. Regardless of this improvement the lesion strongly suggests malignancy. Drs. Weiss, Gottheil and Oberndorfer considered syphilis, tuberculosis and cancer. They, however, regarded it as malignant, and could exclude the other two. Dr. Geyser suggested X-ray with a special tube for mouth cases. Dr. Sobel thinks it is malignant, but would suggest very large doses of KI and note the result. Dr. Pisko thought it might be specific, and related a case of a man, eighty-nine years old, whose syphilis contracted at the age of twenty-one, never showed any lesions until one year ago, when subsequent events proved the lesion to be a gumma. Drs. Cocks, Abrahams and Ochs called it malignant.

Dr. I. P. Oberndorfer showed a boy of five years. The present eruption began at the age of two years; lesions consist of numerous, varying-sized blots upon a deeply reddened and somewhat infiltrated skin; some scratching and excoriations were also observed. Mucous membranes not involved; the entire body is involved, including face and scalp. The boy's bodily nutrition has not suffered, and aside from subjective symptoms is in good physical condition. Presented as a case of pemphigus vulgaris. Dr. L. Weiss stated that the physical well-being of the child favored diagnosis of pemphigus vulgaris; if pemphigus foliaceus, the prognosis was extremely bad; he saw good results with the permanent bath. Dr. Gottheil also believes the prognosis to be good in this case; if pemphigus malignans, would expect to see greater constitutional disturbance. Dr. Abrahams said pemphigus foliaceus tends to progression and the prognosis is extremely bad. The absence of excoriations and mouth lesions favored diagnosis of pemphigus. Dr. Pisko described a condition known as urticaria bullosum; it begins as an urticaria; vesicles and blebs develop and finally shows a picture resembling pemphigus simplex.

Dr. R. Abrahams showed a woman of thirty-five years, with rounded semi-cartilaginous tumors along the back of both arms (elbow region) and along the phalanges; of about four years' duration; painless and about the size of a large cherry; non-adherent and movable; no history of rheumatism or gout; no apparent connection with the joints. He termed it multiple fibroma. A second case, shown by Dr. Abrahams, with the following history: A male of thirty-five years noticed a small pimple on side of nose about four months ago; this he stated was treated by injection and cauterization; following which the present condition confronts us; a large oval, deeply excavated ulceration with raised margins and sharply defined border. The patient placed on KI; healing is slow, but improvement nevertheless marked since beginning of treatment. Drs. Pisko, Gottheil, Cocks and Oberndorfer called it an ulcerating gumma. Dr. Weiss said infection might have been accidental; its appearance suggested syphilis. Dr. Ochs thought it resembled rodent ulcer.

Dr. B. F. Ochs presented three cases: (1) A male with three distinct lesions—*a*, multiple lipoma on arms and abdomen; *b*, alopecia areata (scalp), and *c*, ringworm of the beard. (2) Male; twenty-seven days after suspicious coitus noticed an ulcer on prepuce; painful and enlarged inguinal glands now present; skin clear. Owing to long period of incubation in doubt whether to call it true or simple chancre. The ulcer was considered a chancroid; Dr. Sobel contending that other forms of irritation could produce such an ulcer. (3) Male; presents five or six distinctly raised papillomatous-like lesions along borders of upper and lower lips; present about eight months. Dr. Sobel thought the original lesion might have been a mole and present condition due to irri-

tation. Dr. Weiss called it papilloma, as did Drs. Oberndorfer, Gottheil and Pisko. Dr. Abraham considered it specific; he said, if seen on genitals, would surely call it specific.

## PHILADELPHIA.

**Medical Jurisprudence Society.**—At the annual meeting of this society held January 18, Judge William N. Ashman was elected President; Dr. Henry Leffmann and Paschal H. Coggins were re-elected Secretary and Treasurer, respectively.

**Officers of County Medical Society.**—At the annual election held on January 20, the following were elected officers of the Philadelphia County Medical Society: President, Dr. Roland G. Curtin; First Vice-President, Dr. Franklin Stahl; Second Vice-President, Dr. Chas. P. Noble; Secretary, Dr. William S. Wray; Assistant Secretary, Dr. R. H. Skillern; Treasurer, Dr. Collier L. Bower; Censor, Dr. H. St. Clair Ash; District Censor, Dr. Albert M. Eaton.

**Smallpox Increasing.**—For the week ending January 22 there were reported 106 new cases of smallpox, the largest number in any one week for more than three years. Deaths from this increase were 11 less than during the previous week. Deaths from all causes numbered 618, this being 118 less than the week before when the death rate was unusually high.

**New Sanatorium for Consumptives.**—It is stated that the erection of a sanatorium for the treatment of consumptives will early in the spring be begun at Summit Hill, Pa. A number of Carbon county capitalists are interested in the project and patients are to be treated at very low rates. Climatic conditions are considered excellent. The institution will be conducted on lines similar to that at White Haven.

**Butler Relief Corps Returns.**—The four physicians and the remainder of the 25 nurses who were at Butler during the height of the typhoid epidemic, returned to this city January 20. The Hospital of Brotherly Love, so named by the inhabitants of Butler, maintained by them there was closed the day before they left, the remaining patients being convalescent and sent to other hospitals. The record made in the hospital was very gratifying, only two deaths occurring in that institution. The gratitude of the citizens of Butler was voiced by Judge Galbraith, who, speaking for the Relief Committee, said in part: "I have said on several occasions that Philadelphia has earned anew the right to be called 'the City of Brotherly Love,' because, when our people were in the throes of an epidemic, many of them suffering and in need of help, then it was that Philadelphia did one of the noblest and grandest things in the way of help for human kind that I have ever known; and I am sure that what they have done for Butler in its present condition, coming here as they did, offering their help, and the way in which they helped, has endeared Philadelphia to Butler for all time to come. This epidemic will go down, I have no doubt, as an epoch in the history of Butler County, and the generations to come will turn back to the year 1903 as 'the year of the epidemic,' and I think that in addition to that historical fact will go down through our annals what Philadelphia has done for Butler."

**Milk Supply of Philadelphia.**—At a recent meeting of the Keystone Veterinary Medical Association, Dr. Leonard Pearson, State Veterinarian, said that though the great bulk of milk being shipped into Philadelphia was wholesome enough there is still enough contaminated milk sold daily to destroy many lives. The reason given was that the dealer seldom visits the farm where the milk he distributes is produced and at the same time in his dealings forces the farmer down to the last cent. Dr. Pearson said further: "One would naturally expect that the milk purchased by benevolent institutions like our hospitals would have been specially scrutinized, but when an inquiry was started it was found that only three of our hospitals paid any attention to the purity of the milk they fed their patients. The others not only purchased the ordinary market milk, but the determining question as to who should be selected to supply it was the question of price. The dealers assumed that milk good enough for a hospital was good enough for any one. Through the efforts of Dr. Martin and the Health Bureau all the hospitals are now using pure milk." Other speakers stated that more than three thousand quarts of certified milk, at an advance of two cents per quart, are being consumed here daily and the demand is increasing. The position of the dealer in regard to certified milk was stated by Dr. George Abbott. He took the ground that, as good milk is more expensive of production than bad milk, the consumer will get good milk when he expresses a willingness to pay more than he now pays.

**Dismissal of Medical Student Upheld by Court.**—The efforts of Mrs. Elizabeth O. White to compel the Trustees and Dean of the Woman's Medical College to allow her to resume her studies at that institution have for the present failed. It is stated that an appeal will be taken to the Supreme Court. Mrs. White passed the examinations of the first year satisfactorily, but on her return in the fall was refused admission as a student. No specific reason for this was given by the Dean, only the general statement being made that because of information received the refusal was best for the institution.

## CHICAGO.

**To Control the Milk Supply.**—It is stated that capitalists are planning to control the milk supply of Chicago. According to reports, "the Chicago Dairy Company was organized in Maine, with a capital of $4,000,000. The intention of the promoters is not to raise prices, but to earn the gratitude of the public by prompt service and to keep milk free from any contamination."

**Inspection of Hospitals.**—Another and more rigid inspection of private hospitals, with special reference to their precautions against fire, was begun during the week. The last previous inspection, in the Spring of 1902, was made by the Building Department alone. The one now being made is under the joint direction of that department and the Department of Health, a Building Inspector and a Medical Inspector working together in each investigation, and making joint reports to each department. In this way it is hoped to secure better results in the matter of prompt remedy of defects discovered.

**Pneumonia.**—A comparison of the New York with the Chicago figures of deaths from pneumonia and consumption up to Jan. 2, the date of the last New York report received, shows a close agreement as to pneumonia, but a wide difference as to consumption. The pneumonia deaths formed 18.6 per cent. of the total mortality in Chicago, and 18.7 per cent. in New York. On the other hand, while the consumption deaths were 12.1 per cent. of the total deaths in New York, they were only 9.3 per cent. in Chicago. Chicago's deaths from consumption were 30 per cent. less than New York's.

**To Muzzle Dogs.**—On January 18, at its regular meeting, the Chicago City Council passed an ordinance providing that dogs must be muzzled all the year round unless led by a chain. The fine imposed for the violation of this ordinance is to be not less than $2, nor more than $10. It will be remembered that the City Council was prompted to take such a drastic measure

by a paper read by Dr. Arthur Dean Bevan at a meeting of the Chicago Medical Society, in which he depicted the horrors of hydrophobia, and subsequently resolutions were adopted by the Society asking for the passage of such an ordinance.

## CANADA.

**Personal.**—Professor W. D. Halliburton, F.R.S., Professor of Physiology in King's College, London, England, delivered a lecture on the Degeneration and Regeneration of Nerves, with lantern slide illustrations, before the Medical Faculty and students of Toronto University on January 22.

**Appointments.**—Dr. J. T. Moher, Assistant Superintendent of the Institution for the Feeble-minded at Orillia, Ont., has been transferred to the position of Medical Superintendent of the Brockville Insane Asylum, to succeed the late Dr. J. B. Murphy. Dr. Peter H. Bryce, Secretary of the Ontario Board of Health, has been appointed Inspector of Immigration for the Interior by the Dominion Government. He will likely be succeeded by Dr. C. A. Hodgetts who has been discharging for some time the duties of Provincial Health Inspector. Dr. Bryce in his new sphere will also have charge of supervising a new system of medical inspection which it is proposed to inaugurate among the Indian tribes of the Northwest Territories.

**Typhoid Fever in Montreal and Suburbs.**—The epidemic of typhoid fever which has been raging in Montreal, but particularly in the suburbs of Westmount, St. Louis and St. Henri, is now said to be well in hand. In all there have been over 600 cases, and the cause has been put down to the quality of water furnished to these municipalities. At the present time there are between 120 and 130 cases in the different hospitals of Montreal, and no new cases can be taken in the General and Royal Victoria Hospitals. The Provincial Board of Health of Quebec has had to step in and take a hand in managing the epidemic and have issued a special circular to the physicians of Montreal and suburbs asking for their co-operation in checking the epidemic. During the week ending Jan. 16, there were nine deaths reported from the disease. As only a few cases have developed within the past few days, it is considered that at last it is well in hand.

**Western General Hospital, Montreal.**—The annual meeting of the Board of Governors of the above institution was held last week, when it was reported that the number of patients treated in the institution in 1903 was larger than for any previous year, and that after deducting the cases which terminated fatally within forty-eight hours of their admission, the death rate was only three per cent. The report also stated that each day the necessity for a new hospital building was becoming more and more marked. Those treated in the hospital during 1903 numbered 600, which was an increase of eleven over 1902. In the outdoor department the number treated was 7,560, or an increase of 990 over the previous year. The average number of days' treatment in the hospital was 18.3, and the total of days' stay was 11,176. Dr. G. H. Matthewson was elected secretary and Drs. F. W. Campbell and F. R. England medical representatives on the Board of Governors.

**Royal Victoria Hospital, Montreal—Annual Meeting.**—The following appointments were made to the medical staff: Assistant surgeons, Drs. E. W. Archibald and C. B. Kenan; assistant laryngologist and rhinologist, Dr. W. H. Jamieson; associates in medicine, Drs. H. B. Cushing, F. M. Fry and John McCrae; director of the clinical laboratory, Dr. A. A. Bruyere; clinical assistants in neurology, Drs. A. A. Robertson and Malcolm Mackay; clinical assistant in medicine, Dr. Phillip Burnett; clinical assistant in ophthalmology and otology, Dr. F. W. Harvey; second assistant pathologist and registrar, Dr. John McCrae; assistants in bacteriology, Drs. H. B. Yates and J. A. Williams; medical registrar, Dr. H. B. Cushing.

## GENERAL.

**Tuberculosis Exposition at Baltimore.**—The Tuberculosis Exposition at McCoy Hall, which is given under the combined auspices of the Tuberculosis Commission of Maryland, the State Board of Health and the Maryland Public Health Association, was formally opened last Tuesday, to continue throughout the week. It is "an objective presentation to the people of Maryland of the history, distribution, varieties, cause, prevention and cure of tuberculosis," and the careful and elaborate preparations made indicate that, wide as this scope seems to be, the purpose will be amply achieved. The exposition is the most important step yet taken in the crusade against the "white death" in this State, and, being the first of its kind ever held in this country, is attracting so much attention from medical men and scientists in all parts of the country and has received so many exhibits from far and near that it takes on a really national importance. A fuller review of its program will be given next week.

**Typhoid at Leadville, Colorado.**—A serious epidemic of typhoid fever prevails at Leadville, according to Claude E. Copper, secretary of the board of health. Mr. Copper says there were 500 cases of the disease in Leadville on Jan. 21, and expresses the belief that it will spread. He says the situation is serious, not only because of the rapid spread of the disease in Leadville, but from the fact that there is danger of the Arkansas River becoming contaminated, which would jeopardize the health of thousands of persons along its banks.

**Inventor of Iris Diaphragm.**—Mr. John Henry Brown, the inventor of the now widely used iris diaphragm, died on December 19, at Hove, England, aged sixty-seven years. He was a dentist, and never having patented his invention, reaped no pecuniary reward from it. In the early seventies he took his home-made model to Smith & Beck, the well-known opticians in Cornhill. The model, although roughly constructed, differed in no essential particulars from the diaphragm at present on the market. Mr. Brown was a fellow of the Royal Astronomical Society.

**A Unique Departure.**—Year-books are plenty, and in the well-known English weeklies a retrospect of progress is to be found at the close of each year. The *Interstate Medical Journal* has this year published an extra number, a "Special Annual Medical Progress Number," which contains a summary of the year's work, which has been very wonderfully compressed and makes a valuable reference number. We wish the *Interstate* success in its venture.

**Japan's Medical Service.**—The *British Medical Journal* says the Japanese military medical arrangements are so extremely up-to-date as to be scientifically comparable with those of any nation, while in point of generosity of the provision of medical officers, elasticity and adaptableness to varying conditions, the difference is, perhaps, in favor of Japan. Thus, while base hospitals, field hospitals, dressing stations of three types, bearer companies, and hospital ships all find their place, each division of the army has a medical reserve, which is mobilized simultaneously with it, and serves in the base or reserve hospitals. The medical department also has its own independent transport, and every infantry regiment, cavalry, artillery, engineer, and general transport battalion has a medical staff attached to it of a very complete kind. Besides all these

standing arrangements, the regulations provide for an automatic addition to the personnel of the hospitals in accordance with the number of patients present, without reference to headquarters. Moreover, so long as a military medical officer remains in chief command additions may be made from the civilian population; everything, too, is done to facilitate the co-operation of the Japanese Red Cross Society.

## OBITUARY.

Dr. EDWARD B. DANA, Jr., died at his home in Main street, Metuchen, N. J., last Thursday night, of pneumonia resulting from overwork and exposure in attending to a very large practice. He was about forty-three years of age, and was president of the Board of Health and of the Board of Education.

Dr. VIRGIL M. D. MARCY died suddenly at his home, in Cape May, N. J., Jan. 21, aged eighty-one years. He was born in Cape May, Jan. 5, 1823, was graduated from Yale in 1844, and two years later from the medical department of the University of Maryland. He was on the first college boat crew that ever rowed in this country. He was a prominent Presbyterian and practised medicine in Cape May from the time of his graduation. He was prominent in Masonic circles.

Dr. EDMUND ANDREWS.—On Jan. 17, Dr. Edmund Andrews underwent an operation for stone in the bladder, the operation having been done by his sons, Drs. E. Wyllys Andrews and Frank T. Andrews. The distinguished patient bore the operation well, and had practically recovered. About noon of Jan. 22 he was seized with cardiac paralysis, and soon expired. Five years ago the first symptoms of valvular trouble of the heart were discovered. For forty-eight years Dr. Andrews was engaged in the practice of surgery in Chicago, retiring two or three years ago. He was born in Putney, Vt., April 22, 1824. He removed with his parents to Detroit, Mich., in 1840, and was graduated from the Literary Department of the University of Michigan in 1849. Three years later he completed a course in medicine at the University and came to Chicago. In 1857 Dr. Andrews occupied a professorship in Rush Medical College and taught there for three years. At that time only two years' study were required for graduation, and, advocating a longer course, Dr. Andrews, with five other physicians, established Lind University. The University was the first to require a four-year course. In 1860 the college was absorbed by the Northwestern University, and Dr. Andrews was appointed Professor of Surgery. At the beginning of the Civil War Dr. Andrews was appointed Surgeon-in-Chief of Camp Douglas, and later was made surgeon of the First Regiment of Light Artillery. With the regiment he saw service in Tennessee and Mississippi. In 1854 Dr. Andrews founded the Chicago Academy of Sciences, and for many years was one of its most active supporters.

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**Etiology of Exfoliative Endometritis.**—A very probable explanation of this condition is furnished by S. GOTTSCHALK (Deut. med. Woch., Vol. 29, No. 48). In the case which he describes there were numerous thrombi in the veins of the uterine mucosa. The mucous membrane had become detached by a dissecting effusion of blood, similar to that which takes place in a premature detachment of the placenta. He believes that these thrombi were due to stagnation of the blood from weak heart action. Microorganisms were not found. He suggests that the routine treatment of scraping the interior of the uterus would be of no avail.

# CORRESPONDENCE.

## OUR LONDON LETTER.

(From Our Special Correspondent.)

LONDON, January 9, 1904.

NEW YEAR HONORS—STATISTICS OF THE MEDICAL PROFESSION—THE STATE REGISTRATION OF NURSES—MUNICIPALITIES AND THE SUPPORT OF HOSPITALS—A NEW DEPARTURE IN SCIENTIFIC "TRANSACTIONS"—THE CHAIR OF MEDICINE AT OXFORD.

THERE must have been woful disappointment in the crowd of more or less eminent members of the medical profession who were looking forward to New Year's Day for the issue of a list of "honors," in which they hoped to see their own names. Only a few decorations have been given, and these are confined to the Indian Services. Henceforth the "fount of honor," as the Sovereign is styled by the heralds, will play only once a year—on His Majesty's birthday. The official reason is that the two dates are too close to each other; the real one, I suspect, is that Edward VII. has been so lavish in his bestowal of honors that it began to look as if he would in a few years have had no adult male among his lieges left to decorate.

The *Medical Directory* for 1904, which has just been published, shows that the total number of medical practitioners on the British Register is 37,730, being an increase of 439 as compared with last year. London has 6,328 doctors; there are 16,553 in the English provinces and 1,207 in the Principality of Wales; Scotland rejoices in 3,696, while Ireland has 2,629. The naval, military and Indian Services have together 3,016 medical officers, and there are 4,292 holders of British diplomas practising in the colonies and in foreign countries. Here as elsewhere medico-political economists are becoming alarmed at the steadily increasing output of doctors from the schools. A cry for protection is making itself heard from the general practitioners on whom the stress of competition falls most heavily; they ask that a higher standard of preliminary education should be required and that admission to the profession should be made more difficult. Pressure is put on the British Medical Association, which is rapidly developing into a trade-union, naked and unashamed, to take up the cause of the down-trodden practitioner and bring about a medical millennium. The clamorers for protection fail to recognize that the Association has little or no political influence, and that it has not even authority to speak in the name of the medical profession as a whole. Nor do they perceive that the whole problem is an economic one, which can be solved only in accordance with the law of supply and demand. There are doctors and doctors. While there will always be a demand for competent practitioners, the public has no use for the incompetent. And it must be confessed that this fact lies at the root of the hospital out-patient difficulty of which so much is heard. Practitioners complain that patients who could pay them a small fee are attracted to hospitals where they are treated for nothing, and they blame the hospitals for conniving at this abuse of medical charity. A large proportion of the general practitioners in this country have never acquired more than the irreducible minimum of knowldege required to carry them safely through an examination presenting no insuperable difficulties to persons of average intelligence, and in a very few years much of what they learned for the purpose has gone, like Hans Breitmann's party "afay in de Ewigkeit." That there is a good deal of abuse of medical charity is undoubted. But the real reason which makes so

many people not overburdened with money prefer the hospital out-patient department to the general practitioner's surgery is, to speak plainly, that they have no confidence in the latter. For the doctor the first condition of professional success is to create a demand for his skill. Those who throw the blame of their failure on the abuse of hospitals, on underselling by their brethren, on the multitude of quacks, assume that they have a right to be protected by the State and receive the support of the public. With the French prisoner they put forward, as if it were a first principle of Nature, the plea *Faut vivre*, and like him, alas! they lay themselves open to the retort from the public, *Je n'en vois pas la nécessité.*

For many years there has been a movement here to secure the establishment of a register on which the names of properly trained nurses should be enrolled. Something of the kind has indeed been attempted, but only as a matter of private enterprise. The nursing world is split up into several factions which hate each other as bitterly as rival religious sects. Hence any reform suggested in one quarter was certain to meet with strenuous opposition in the other. Now, however, there seems to be a prospect of a State register being established. A measure providing for such registration is to be introduced in the forthcoming session of Parliament. The bill has been drafted by the Society for the State Registration of Nurses, and a number of influential members of the House of Commons have already promised their active support. It is proposed to appoint a Central Nursing Council that will be representative of the medical and nursing professions. The duties of this Council will be to protect the interests of nurses and also to afford a safeguard to the public against untrained or ill-trained nurses, of whom there are said to be hundreds in London at the present time. The Council will regulate and supervise the training of nurses, and the names of none will be admitted to the Register unless they have satisfied the proper authorities of their competence to discharge the duties which they undertake. Besides the names the Register will contain the qualifications and addresses of nurses, and the list will always be open to the inspection by the public. As an illustration of the evils against which the bill is directed it may be mentioned that a week seldom passes without the occurrence of a case in the Coroners' Courts which reveals proofs of incapacity in women calling themselves nurses and gross mistakes committed by them. Naturally they find their chief sphere of operation among the poorer classes, to whom they represent themselves as efficient substitutes for doctors. A nursing authority has recently declared that the mortality attributable to these quack nurses is enormous. The passing of the bill will do much to check practice by such unqualified women, and cannot fail to be a boon to the sick poor.

The municipalization of hospitals has never found favor with the governing bodies of those institutions or with the medical profession of this country. All our hospitals owe their foundation to the charity or enterprise of private persons, and each one jealously guards its independence. If they were to be supported out of the rates, they would of course be subject to the control of the local authorities which levy the rates. It is largely a matter of accident whether those bodies are enlightened promoters of the public welfare, or narrow-minded Jacks-in-office, who grudge every penny needed for safeguarding the public health, and who would certainly not be less obstructive in the matter of providing funds for the efficient maintenance of hospitals. Hitherto the belief has been universal that under the Public Health's Act, local authorities had no power to make contributions to the support of local hospitals out of the rates. Quite recently, however, the Local Government Board has expressed the opinion that it appears to be competent for such authorities to make contributions to the funds of established hospitals. This is a new departure which is hailed with satisfaction by some hospital administrators, while by others it is regarded as the first step to the dreaded municipalization, with the consequent popular control. In connection with this matter it may be mentioned that there is now before Parliament a bill providing for the relief of all hospitals from the burden of rates independently of municipal action. This would doubtless be a great benefit to the hospitals from the financial point of view. The bill will, however, meet with some opposition if the general practitioners, who look upon such a concession to hospitals as an additional handicap on themselves in their struggle with those institutions, are able by lobbying M.P.'s to muster a sufficient array of force against the proposal.

The last three or four International Medical Congresses have been object lessons in the confusion of tongues, and thoughtful observers are becoming convinced that unless a remedy can be found, that institution will have the fate of the Tower of Babel, and for the same reason. At the Congress held last year at Madrid, five, if not six, tongues were recognized as "official," the result being that the meetings gave the impression that the debaters had, like Holofernes and his brother pedants in *Love's Labor Lost*, been at a great feast of languages and stolen the scraps. The want of a universal language of science is making itself more and more severely felt, for to keep up with the flowing tide of medical progress nowadays a man must be able to read at least half a dozen languages. Artificial tongues, such as Esperanto, will never, I think, come into general use; they are as difficult to learn as French or Italian, and when learnt, one has only a *lingua franca* without a literature. National jealousies stand in the way of the general adoption of any living tongue as the recognized medium of scientific intercourse, but there is one dead language which might well serve the purpose, as it did till the beginning of last century. Latin is still used for lectures, theses, and discussions in Catholic theological seminaries, and educated German, Italian, French and Spanish priests can converse with each other without difficulty. If English priests are somewhat less fluent in the colloquial use of Latin, this is due to want of practice. If Latin were properly taught in schools, boys intended for the medical profession would on leaving be sufficiently practised in its use to be able to make it a vehicle for the conveyance of scientific ideas. A disquisition on the subject is outside my province; the remarks here made are merely intended to serve as an introduction to the mention of a fact which may be the first sign of an important revival. Mr. S. G. Shattock, one of our leading pathologists, the editor of the *Transactions of the Pathological Society*, in the last number recently issued has prefixed to the principal papers a summary of their contents in the language of ancient Rome. The Latin might perhaps make Quintilian gasp and stare, but it is clear and precise and serves the purpose for which it is intended quite admirably. Mr. Shattock seeks to disarm the criticism of classical pedants by pointing out that graces of style would be out of place in setting forth scientific facts (*In re scientiæ modo postulatur expositio accurata rerum et legum quibus gubernantur, sine litterarum floribus aut ornamentis*). The matter is of

course in the experimental stage; but he has at any rate succeeded in proving that the fresh facts and new truths of modern pathology can be expressed with perfect clearness and accuracy in Latin. The innovation has already received the approval of several prominent scientific workers in this country.

Mention was made in my last letter of Sir John Burdon Sanderson's resignation of the Chair of Medicine at Oxford. There seems to be a prospect of a somewhat unedifying fight over the choice of a successor. At Oxford itself it is felt that the vacancy offers a good opportunity of making the chair of greater utility to students and of greater credit to the University by expanding the scope of the incumbent's teaching. An Oxford professor cannot teach practical medicine efficiently for want of an adequate clinical field. He has, however, the largest facilities for teaching pathology and for enlarging the boundaries of the science. It is proposed therefore to transform the chair of medicine virtually into one of pathology; to incorporate in it an existing "readership" in that subject, and to make the present holder of the latter office, Dr. James Ritchie, Regius Professor. This proposal is being strongly resisted by a considerable body of Oxford graduates, headed by the President of the London College of Physicians, Sir William Selby Church. This party holds that the Regius Professor should be "a physician of great experience in clinical work and clinical teaching;" that he should be "a man of established reputation in medicine and one who could worthily uphold the dignity of the University in the estimation of the profession and the public;" and further, that he should be himself an Oxford man. Dr. Ritchie is only an Oxford man by adoption, having, like Burdon Sanderson, received his medical training and taken his degrees at Edinburgh. Oxford men are by way of looking upon themselves as the salt of the earth, and the chief objection to Dr. Ritchie is doubtless that he is not one of the elect. He is, however, a man who has already won great distinction as a pathologist, and he has the further recommendations of youth, energy and openness of mind. It is to be feared that the Oxford graduates look upon the Chair of Medicine in their ancient University as a place of dignified repose for a cultured gentleman who combines a moderate knowledge of physic with distinctions of a purely academic kind. If Oxford is not to continue to be a "lost medical school" that is just the kind of professor she does not want.

## THE "SANDHOG" AND THE CONTRACTOR.

*To the Editor of the* MEDICAL NEWS:

DEAR SIR: I have received from my friend, Dr. Noyes, a copy of the issue of the MEDICAL NEWS of Jan. 16, and following his request, I write you in relation to an editorial which appeared in that issue entitled, "The Bends and the 'Sandhogs.'"

I do this without any reference whatsoever to the medical aspect of the case, but purely in respect to the engineering side in relation more particularly to tunnel work.

Our specifications for air-pressure work have invariably contained a number of clauses providing for the preservation and care of the health of employes.

In the construction of the Hudson River Tunnel, which work we have been under the necessity of carrying on for the owners, we have fully enforced all the conditions stipulated in these specifications and the result has been that we have had hardly any cases of injury due either to "bends" or paralysis and only one death, while I do not now remember that we have had any case of permanent paralysis, notwithstanding that we have been engaged on this work with high-air pressure for nearly twenty months continuous work by night and day. From the engineering aspect of this class of work the matters which can be definitely regulated, comprise (*a*) the medical regulations; (*b*) the length of service under pressure; (*c*) the period allowed for decompression and (*d*) the provisions as to the purity of the air in the tunnel.

In caisson work it is usual and desirable to specify also the limit of temperature in the working chamber, but this does not give any trouble in tunnel work on account of the enormous relative colume of the working chamber.

In order to keep the temperature at a moderate limit of say 80° F. maximum, it is often necessary in caisson work to cool the air at the receiver after leaving the compressor, artificially.

In the first instance in our own construction work we enforce the strictest medical examination of all persons working under pressure. This is carried out by our own physician and he selects very carefully and limits employes rigidly in respect of the age of the applicant, being very liberal with candidates who are under thirty, and exceedingly critical of candidates who are over forty years of age.

The examination in respect to the ears is done by the engineers in a practical manner—that is to say, any candidate for work presenting himself, is taken into a light pressure, say fifteen to twenty pounds per square inch, before being engaged for employment, and any who are "blocked" by the pressure are promptly rejected.

Following the acceptance of men by the medical officer, rules have been laid down as follows, for the guidance of employes in preserving their health:

Hudson Improvement Company

NOTICE TO EMPLOYES

Engaged in Work Under Air Pressure.

The following rules, governing personal safety and health, must be carefully observed:

1. Never enter lock with an empty stomach.
2. Use intoxicating liquors sparingly. Take warm coffee freely.
3. Always put on extra clothing while coming out. Pass out slowly.
4. Exercise as little as possible for at least one hour after coming out.
5. Get fully seven hours' sleep in each twenty-four.
6. See that the bowels move every day.
7. Never enter the lock if at all sick.
8. Report all cases of illness at the office *immediately.*

A. J. LOOMIS, M.D.,
*Medical Officer.*

These notices are posted in the dressing rooms and in various places about the works in plain sight of all employes.

In regard to the length of service, we consider this an exceedingly important, in fact, the most important item in the case. In the construction of the East River Gas Tunnel under the East River at Seventieth Street, N. Y., we worked at times with a pressure as high as 52 pounds above the atmosphere or 67 pounds absolute, and in this case employed the men for two 1½ hour shifts per day with no injurious results. On the Hudson River Tunnel, however, we have not needed to work as high a pressure, as this at any time, and our maximum pressure has not exceeded 45 pounds above atmosphere or 60 pounds absolute. This pressure, however, has been worked under continuously for quite long periods, and the bulk of the work has been car-

ried on between the pressures of 50 and 60 pounds absolute.

Under these conditions we have had no trouble whatever in working the men six hours per day. This has been done, however, by working three-hour shifts and relieving the gang at the end of three hours by the fresh gang and the first gang laying off three hours and then returning to work, so that each of four gangs work three hours and lay off three hours, and work again three hours, constituting in this way, the full twenty-four hours uninterrupted employment.

As we have reduced the depth of the tunnel and consequently reduced the necessary air pressure under which to carry on the work, we have been able at pressures of 20 to 25 pounds above atmosphere or 35 to 40 pounds absolute, to extend the length of service to eight hours actual work without causing any injurious results.

The length of service is not a matter in which any specification can properly treat and the provisions we have always made have been that contractors shall regulate the length of service in accordance with the pressure under which work is being carried on and shall advise his employes fully by notice thereon.

In relation to the period of decompression, notwithstanding all the propositions and suggestions laid down by medical authorities, the specifying or enforcing actual hard and fast lengths of time, are valueless in carrying on practical work. The individual employed has under his absolute control, the period of decompression in the operation of the air valves and in view of the fact that during the period of decompression the temperature is suddenly lowered very greatly, so that the men get chilled through to the bone in coming out from a previous state of free perspiration to the outer atmosphere, we have never found it possible to regulate with any certainty the actual period of time which should elapse in the operation of decompression.

The practical and possible, and the most desirable way in which to regulate this is to instal air pressure with provision for varying stages of pressure, by the introduction of additional air locks, so that there is no single stage involving more than from 15 to 20 pounds reduction in pressure from one stage to the next. In the Hudson River Tunnel, we have invariably used two air locks giving two stages of pressure, more or less equally divided by regulation of safety valves; but we have locks installed that in case of any extremely high pressure being needed, a third stage can be introduced promptly. This arrangement would be perfectly feasible to adopt in caisson construction though as far as I am aware, it has never yet been employed.

The great advantage of this in tunnel work is that a very considerable period of time must elapse in passing from the intermediate to the outer stage of pressure governed by the distance between the air locks, and this permits men not only to equalize themselves to the changing pressure conditions, but enables them to cool off to a material extent after leaving their work before coming to the outer atmosphere.

I have never found regular employes who are willing to remain in the lock one-half of the time which medical regulations call for as necessary; on account, as above mentioned, of the chilling effect of slow outlet from the locks. We prohibit absolutely the use of big valves in locking out men, but with the use of an air lock 6 feet in diameter by 16 feet long, we employ and permit the use of the full aperture of a 1¼-inch valve, and this we consider to be a perfectly reasonable provision for decompression and we have never had any trouble whatsoever in the use thereof. This aperture allows a period of from 75 to 90 seconds per atmosphere.

The effect of rapid decompression often develops "bends," which commonly does not attack the patient until some time after he has left the work.

As a provision against this trouble and against the condition of partial and temporary paralysis, every work of any magnitude whatever should be equipped with a hospital lock on the surface arranged with two stages of pressure, and the lock fitted with cots upon which patients can lie and go to sleep. The hospital lock is also equipped with steam coils and it is seldom that the use of the hospital lock fails to eliminate all trouble of a temporary nature caused by air pressure; usually showing itself in the form of bends or temporary partial paralysis. At the same time some of the cases of temporary paralysis are very obstinate and take a long period of time in which to pass off.

The hospital lock is a most valuable adjunct to the treatment of employes. The use of steam-heated dressing rooms kept at a temperature of 80 to 90° F., and with hot water service to permit of the employes properly and efficiently bathing themselves is also a valuable and necessary adjunct in the maintenance of the health of employes, and the free use of hot coffee furnished to the men, after coming out of pressure, is considered by all persons engaged in air pressure work an absolute essential under modern methods.

In respect to the ventilation, I have before me the records extending over the entire work on Hudson Tunnel and find that at no time under conditions of regular work has the atmosphere shown a greater proportion of carbonic acid gas than eight parts per ten thousand (8 per 10,000), and as a general rule in the regular operation, the proportion does not exceed seven parts to ten thousand.

This is obtained by pumping an excessive quantity of air into the heading and as a general rule the quantity of free air discharged into the tunnel amounts to something like 3,000 cubic feet of free air per man per hour.

The purity of the air we consider usually to be one of the first essentials in maintaining the health of employes. I have recently been engaged in connection with an air pressure proposition for one of our western cities, in preparing specifications, and in these I have provided that the quantity of free air discharged into the tunnel shall at no time be less than 1,000 cubic feet per head per hour, and that the proportion of carbonic acid gas shall at no time exceed nine parts per ten thousand, and that the temperature in the working chamber shall not exceed 80° F., and that, if necessary to obtain this result, the air shall be artificially cooled before delivery into the heading. Regular daily analysis of the air in tunnel heading is part of the duty and equipment of a properly organized engineering corps.

In this particular piece of work, the arrangement for medical examination I consider to be a good one. The work is being executed by the City and under a public commission. This commission employs their own medical man who shall receive a monthly salary and in addition thereto, a fixed specified sum, for the examination of every employe, and this sum is to be charged against and deducted from moneys due to the contractor for the work. I consider this arrangement is a very excellent one, as it keeps the medical examination and supervision of employes in the hands of the public body or company executing the work, and does not leave it absolutely in the hands of the contractor, as is so often the case, with the result that the examination is not regarded or executed as the specifications may provide.

Yours very truly,

J. V. DAVIES.

New York, Jan. 20, 1903.

## SOCIETY PROCEEDINGS.

### MEDICAL SOCIETY OF THE STATE OF NEW YORK.

*Ninety-eighth Annual Meeting held at Albany, January 26, 27 and 28, 1904.*

FIRST DAY—JANUARY 26TH.

**Unanimous Adoption of Joint-Committee Report.**—The morning session of the first day was entirely taken up with the reports of committees, especially with the report of the Joint Committee of Conference appointed for the purpose of consolidation with the Medical Society of the State of New York and the New York State Medical Association. As the agreement came from the Joint Committee it was unanimously adopted, thus practically assuring unification after over twenty years of separation. It was followed in the Comittee's report by the Enabling Act which passed both branches of the New York State legislature last week and was signed by the governor January 21. Of the draft of the Constitution and By-laws for the reunited organizations we give only those parts which are novel and which, because of the fact that they separate the business of the Society from the scientific discussions, promise to be of decided advantage for future meetings.

In moving the adoption of the report of the Committee of Conference and its continuance with power Dr. Abraham Jacobi, of New York City, said that two members of the committee deserved special mention for the work done in settling details of the union: Dr. Henry L. Elsner, of Syracuse, and Dr. Wisner Townsend, of New York City. Dr. Bristow, of Brooklyn, the present President of the Medical Society of the State of New York, also deserved the thanks of the profession of the State for his unofficial but untiring helpfulness in the difficult task of making arrangements that would do justice to all interests. In moving the adoption of the committee's report he said that the new constitution promised to make many difficulties of Society procedure simpler and would surely eliminate that most undesirable factor, an aristocratic class, assuming to themselves the power of the Society.

In seconding Dr. Jacobi's motion Dr. D. B. St. John Roosa, of New York City, said that the time had now come for reunion and he hoped that the report of the committee would be adopted unanimously. The split had not been without its advantages. It had brought with it the question of laws for the regulation of medical practice in New York State much sooner than would otherwise have been the case, and as a result had hastened such legislation in other States also. The separation in New York had also brought about the formation of the Association of American physicians, and that surely must be considered to its credit.

Dr. Roswell Park, of Buffalo, Dr. MacDonald, of Albany, and Dr. Potter, who had been members of the Society in 1882, at the time of division, also seconded the motion, which was unanimously carried with prolonged applause.

The report of the Committee on Public Health had many interesting points, among them especially those with reference to the prevention of infectious diseases.

**Prevalence of Typhoid.**—During 1903 there were in New York State 25,000 cases of typhoid fever with over 1,600 deaths. Yet typhoid is an absolutely preventable disease. It is now recognized that most of the water courses of the State have become dangerously infected. Even the beautiful clear Adirondack lakes have been known to harbor the bacillus. The only possible safeguard seems to be to make every one take measures to kill the typhoid germs in excreta before they are disposed of in any way; that may eventually lead them into any flowing water. Physicians should insist on this but do not. There is a false impression abroad that exposure to severe cold or being frozen kills typhoid bacillus. Too many sad experiences have already shown that this is a most dangerous opinion and one that must be removed from the minds of all physicians as well as other attendants on the sick.

**Vaccination and Life Insurance.**—The chairman of the Committee on Public Health suggested that if the life insurance companies, instead of merely asking: Have you been vaccinated? were to add to the question, and When? and then refuse to take risks on persons the interval elapsed since whose vaccination left them liable to contract smallpox, they would not only save money but help to protect the community from this dread disease, which would thus lose most of the human material which it now finds available to carry on its existence and aid its power to do harm.

**School Inspection and Hygiene.**—Finally the committee's report contained recommendations for the extension of the school inspection system all over the State, since its results have everywhere been most satisfactory. They also suggested the teaching of the means necessary for their prevention. This would be real practical teaching in hygiene instead of the often useless teaching in quasi hygiene that now has a place in the curriculum.

**Physiological Therapeutics of Iron.**—The scientific session was opened by a paper by Dr. Reynold Webb Wilcox, of New York City, on recent theories of the physiological action of iron and the best methods of administering it. Hemoglobin would seem to be an ideal form for iron administration, yet has not proved so in practice. Most of the so-called albuminates of iron are really compounds of some inorganic salt of iron with albumin. This can be demonstrated by means of nitrate of silver which precipitates the albumose material. Dr. Wilcox does not like the use of the expression iron albuminate for these, but prefers to talk of "massed" iron. Even with regard to this, it must be confessed that our ideas as to its mode of action are most vague and unsatisfactory.

**Tic Douloureux Cured.**—Dr. Sargent F. Snow, of Syracuse, said that in 20 cases of severe facial neuralgia under his observation all of them were afforded relief of enduring character by the treatment of conditions that had produced increases of intranasal pressure or caused tension within the accessory sinuses of the nose. Many of these cases had had from one or two to all the teeth on one side of the jaw pulled for their pain or had submitted to various surgical operations on the facial nerves. Dr. Snow is of the opinion that the hitherto so frequently considered intractable facial neuralgias will be relieved by proper treatment at the hand of the rhinologist. He is firmly convinced that all hemicrania should be treated on this basis before any other serious measures are tried.

**Illustrative Cases.**—Dr. John O. Roe, of Rochester, gave the details of some severe cases of facial neuralgia which had been cured by intranasal treatment. One of them had had the facial nerve sectioned with relief from symptoms for two years and then relapse worse than ever. After the removal of a spur on the septum she was better for a time and since the opening of the ethmoid cells with evacuation of pus she has had no further pain. In one of Dr. Snow's cases the Gasserian ganglion had been removed with only temporary relief, while the treatment of a sphenoidal condition brought with it surcease of pain that has now lasted for several years.

**Operative Removal of Brain Clot.**—Dr. W. C.

Krauss, of Buffalo, said that as a rule the operations for hemorrhage within the skull have had such little success that operators have been discouraged from undertaking them. In this case the patient thrown from a trolley car suffered severe external injuries to his head and shoulder. He recovered so well in forty-eight hours that but for the markings he would have returned to work. Then symptoms of brain pressure began to develop and he had some typical Jacksonian epileptic seizures involving, however, the same side of the body as that of the injury. These began as tremors but finally became true clonic convulsions. There had previously been some aphasia and paraphasia—A confused jumbling of words only, the first few of them intelligible.

**Differential and Localizing Diagnosis.**—When on consultation it was resolved to bring him to a hospital for operation, the patient proved to have more knowledge of what was going on around him than had been suspected. He refused to go. When the ambulance came he said: "No hospital for me," quite plainly, and later when it was arranged to have a carriage come, as if for a drive, he said distinctly: "You cannot fool me." This made the case look strangely like hysteria, and the idea could not be lightly dismissed, but the character of the epileptic seizures left no room for doubt. Accordingly he was taken forcibly to the ambulance and prepared for operation at the hospital. The incision was made over the side opposite to the injury because the localizing symptoms pointed to that side. Some hemorrhage was found in the membranes of the brain, though only to a slight degree.

**Source of Hemorrhage.**—The blood had come, not from the middle meningeal artery, as was thought at first, but from some emissary veins in the membranes. There was no fracture of either table of the skull. After the pressure was relieved by the removal of the clot there was one subsequent paroxysmal attack and none since, the patient being discharged with very little sign of the serious operation done, after only three weeks. The hemorrhage was evidently due to the contre-coup of the knock on the skull. The surprise is that the man should have suffered so little from concussion of the brain after the accident, yet have had veins on the opposite side ruptured by the counter-stroke. His personal history, however, that of a man who had drunk considerable quantities for many years would seem to throw some light on this point, as such cases have occurred before in alcoholics.

**Enuresis Nocturnal and Diurnal.**—Dr. G. E. Beilby presented the results of his study of this subject in some 600 to 700 children at the State Industrial School, in Rochester. Among these children from 4 to 8 per cent. are affected. The ailment is very much more common in boys than girls. Of 75 cases carefully studied these last three years, 71 were boys. Most of the patients were from ten to fourteen years of age, though some of them were from eighteen to twenty-one years. Of these at least 65 would be considered to have sufficient intelligence to exercise proper control of function. There were no vesical irritants, stone or the like, and no rectal irritation present. None of the patients suffered from severe phimosis.

**Masturbation and Enuresis.**—Dr. Beilby found that in all but 4 cases masturbation was practised. Some of the patients denied it strenuously, but were observed carefully by attendants and later admitted it. This connection between nocturnal enuresis was noted by Jacobi as long ago as 1876. In his article in Keating's Encyclopedia of the Diseases of Children, more than ten years later, he insists on this idea. There seems even to be a direct relationship between the amount of the masturbation and the extent of the enuresis. Careful observations were made in this matter.

**Pathological Basis of Enuresis.**—The superirritation of the spinal centers for erection and ejaculation lie in the lumbar enlargement of the cord not far from the spinal center controlling micturition. The excitation of one of these centers seems to make the others more irritable. It seems scarcely justifiable to say that there is an actual congestion of this part of the cord produced, though such good conservative authorities as Sir William Gowers seem not to have hesitated to say the practical equivalent of this. In some cases there is also partial loss of control of the defecating center situated in the same region.

**Treatment and Prophylaxis.**—For prevention the first requisite would be to guard against masturbation. In boys in institutions for many years, especially orphan asylums, it is difficult to assure against knowledge and practice of this vice. Some have considered enuresis nocturna as due to laziness, but the deprivance of drink and the enforced diet would break a boy of this. Cold douches to the spine have done good, but this would seem to be a mental effect. The most effective treatment is circumcision, though it may not be needed because of length or adherence of the foreskin. During the time that the cut tissues are tender there is no masturbation. It is possible thus to break up the habit entirely, but very often boys recur to it. Circumcision also has a strong mental effect on the patients and thus aids in the cure. Certain of the sedative drugs, especially the bromides are of good effect in most cases.

**Tuberculosis Toxemia.**—Dr. Arthur W. Elting, of Albany, reported a case in which such severe symptoms of toxemia developed that the patient suffered from fever almost as if it were sepsis. Only the cervical glands of one side of the head were involved, but after a time the spleen enlarged and there was a suspicion of Hodgkin's disease. After operation so much toxemia occurred with fever and prostration that the patient's life was despaired of. He recovered completely, however, and even the spleen decreased in size. For the removal of the glands the sternocleidomastoid muscle was cut, and after the operation sewed. In spite of the severe after-symptoms there was never any sign of infection of the wound. The surprise of the case was the amount of toxins from a single absolutely localized infection that showed no tendency to become disseminated even when the patient was worst.

**Dilated Urachus.**—Dr. C. F. Timmerman, of Amsterdam, reported the case of a woman who after a difficult labor suffered from severe hemorrhages. These continued occasionally and stypticin was found to be a valuable agent for their relief. The development of a tumor in the lower abdominal region led to peritoneal section during which in spite of all the usual precautions the bladder was twice opened. The woman recovered from her operation, and other symptoms improved. At a subsequent labor, however, she died from placenta previa. At autopsy it was found that there were two receptacles for urine connected by a narrow passage. The upper one capable of containing one to one and one-half pints of urine was evidently the remains of the urachus or persistent allantoic stalk

dilated. This usually becomes a fibrous cord attached to the umbilicus and cases of this kind are rare.

**Further Cases.**—In discussing Dr. Timmerman's case Dr. Robert F. Weir, of New York City, said that he had seen two of these cases of persistent urachus, but that this specimen was a very striking example. In one of his cases there had been a connection with the bladder and the little compartment contained urine. In the other the urachus formed a retention cyst. The mucus from the mucous lining evidently accumulates to form its contents.

**Insufficiency of the Pylorus.**—Dr. Mark I. Knapp, of New York City, said that stomach specialists sometimes find, when they are about to withdraw a test meal after the usual amount of time has been allowed to elapse, that there are no remains of the meal in the stomach. Many reasons were given for this, Boas' explanation that an increased mobility of the stomach had caused the food materials to pass on to the intestines being very generally accepted. Dr. Knapp has, however, suggested as another explanation insufficiency of the pylorus. He detailed some illustrative cases, and believes that after a time this insufficiency may be followed by such increase of the muscular tissue in the effort to make up for the failure of function that stenosis of the pylorus may result. It is this condition of contraction of the pylorus that is responsible for dilatation of the stomach and not the so-called atony of the gastric walls which used to be considered its cause.

### SYMPOSIUM ON DIABETES.

The first paper was by Dr. R. M. Pearse of Albany and contained a review of the recent advance in our knowledge of the pathology of diabetes.

**Pancreatic Diabetes.**—For over one hundred years there have been references in medical literature to diabetes associated with lesions of the pancreas. Bright's classical case with cancer of the head of the pancreas is only an example. New growths and calculi were pointed out as the usual causes. The French especially accepted this idea of pancreatic diabetes, but the Germans did not until after Von Mering and Minkowski's classical experiments by which they showed that removal of the pancreas caused diabetes and eventual death in dogs. In these depancreatized animals diet did not prevent the diabetes, and starvation did not put a stop to it. After these observations pathologists began to notice special conditions of the pancreas in human subjects dead from diabetes. Hanselmann found a special sclerotic change, but it remained for Opie here in America to point out the true pathology of most cases of diabetes.

**Islands of Langerhans.**—These hitherto mysterious structures are now generally recognized as special organs having no definite relationship except by position to the rest of the pancreas. Dr. Pearse has followed their formation in the embryo and considers that they ultimately become, if they are not from the beginning, independent structures. They bear exactly the same relation to the blood current that other ductless glands bear, and the pancreas all around them may degenerate or become sclerosed from overgrowth of connective tissues, yet the islands remain normal. This is the explanation of the number of cases in which apparently all the pancreas has suffered yet no diabetes resulted and as the result of which the rôle of the pancreas in diabetes has always remained more or less obscure and in doubt. Histological examinations will clear up such doubts.

**Cancer of the Pancreas.**—Malignant neoplasms of the pancreas sometimes cause diabetes and more often do not. Dr. H. S. Pearse, of Albany, has had the opportunity to investigate 23 of these cases in only three of which diabetes had been present, in two constantly, in one intermittently. In practically all of the cases in which diabetes had not occurred the islands of Langerhans were found uninvolved in the midst of pathologic tissues. In the two cases of true diabetes, however, they were completely destroyed by the neoplasm. In the third case with intermittent glycosuria they were found seriously affected. In the first two cases just mentioned there was found the characteristic hyaline degeneration of the islands which is always accompanied by diabetes. The islands of Langerhans practically always remain unaffected in the syphilitic pancreatitis, which especially in children so often gives a hard pancreas, yet without diabetes. If the pancreatic duct be tied, though the pancreas suffers severely, the islands remain intact.

**Other Forms of Diabetes.**—The diabetes that accompanies hepatic disease in certain cases is well known, but in recent years it has been found nearly always to be associated with disease of the pancreas. This is especially true of the so-called bronzed diabetes of the French in which there is cirrhosis of the liver with blood pigmentary deposit, but this is found also in the pancreas. Liver and pancreas are much more closely associated in pathological conditions than has been hitherto supposed. Diabetes with lesions of the adrenals has been reported, but associated lesions of the pancreas have been found in some cases. Dr. Pearse saw a case in which, besides hyaline degeneration of the islands of Langerhans, there was complete destruction from tuberculosis of one adrenal and partial destruction of the other. In more than one case of diabetes with acromegaly the pancreas when carefully examined has been found affected as well as the central nervous system.

**Physiologic Chemistry of Diabetes.**—Dr. David Edsall, of Philadelphia, said that the investigation of the true nature of diabetes as a disturbance of metabolism had as yet far from clearing up the problems involved rather added to the difficulty of understanding the alterations of physiology and chemistry produced. For some time the disease was looked upon as a disturbance of the glycolysis of the tissue—a failure to break up sugar so as to use it properly. It was even spoken of as a failure of oxidizing processes, but it is very evident now that there is nothing so simple as this. Pathology has centered on the pancreas recently. Observations show that a mixture of pancreas and muscle brings about a noteworthy destruction of sugar. This is Cohnheim's observation. Hirsch, a woman investigator, has shown that a mixture of pancreas and liver brings about the same result. Her acute criticism of her own work, however, equally applicable to Cohnheim's shows that this may be only a bacterial and not a true tissue fermentative process.

**Abnormality of Glycogen Formation.**—It may well be that diabetes really consists in some defect of glycogen formation, or it may be due to the absence of material furnished by the pancreas under normal conditions to complete other functions. In birds the extirpation of the pancreas is followed by diabetes. If both liver and pancreas are removed

then diabetes does not occur. Diabetes may also be prevented by section of the spinal cord in the upper dorsal region. In depancreatized dogs starvation does not suppress the diabetes and the animals seem only to differ from the birds in degree not kind of glycosuric tendencies.

**Sugar Metabolism.**—The consumption of sugar in the system is certainly much more of a mystery than has been hitherto thought. Diabetics differ from each other markedly in their attitude toward sugar-containing foods. Some have no disturbance of their general condition if they use levulose, though always seriously disturbed by dextrose. Various types of diabetics might be arranged according to the effect on them of the three forms of mannose. These differ so slightly from one another that it is only by stereo-chemistry, the arrangements of the atoms within the molecule, that they can be differentiated one from another, yet different diabetics act quite differently to them. Much cruder differences than this have, however, been noted by good observers. Some diabetics can consume potatoes without evil effect in amounts that, according to the extent of their diabetes, would seem to be out of the question, and though they are not able to consume in the same way other apparently similar starch-containing food materials. Von Noorden has found a group of diabetics who do very well on an abundant oatmeal diet. There may then be as large a number of special ferments for various starches within the body as on Ehrlich's theory there are receptors to the cells. What is needed is more clinical study for the differentiation of cases rather than more theories of sugar consumption, of which we are only beginning to know our ignorance.

**Medical Treatment of Diabetes.**—Dr. Wm. H. Thomson, of New York City, said that he did not use or counsel the use of opium or its derivatives in the treatment of diabetes. They can only do symptomatic good and cannot improve the disease. In Dr. Thomson's experience the only drugs that have been efficient for the relief of diabetes and its improvement so long as treatment was continued, are the so-called intestinal antiseptics. Of these sodium salicylate, sodium benzoate and a considerable amount of alkaline remedies have proved the most efficient. Cod-liver oil has proved almost a specific. Many cases get better of their symptoms and stay in good condition so long as they take cod-liver oil regularly. The remedy is contraindicated in the very start in those who have great distaste for it and in those who live a sedentary life. Two brothers who came under Dr. Thomson's care over twenty years ago are still alive, though their diabetes was of what would be called severe form, and they were under the ages of forty and under thirty-five years when they came under treatment. They have learned to drink cod-liver oil as if it were cream, and it must be taken in large quantities.

**Prophylaxis and Individual Treatment.**—In those who have a distinct heredity of diabetes, attention should be directed to the diet even before sugar is found in the urine, for hereditary influences play an important rôle in the affection. The individual must always be treated, not his disease. In the obese special care must be taken of the heart. In young persons who come under observation with a severe form of the disease there should be no sudden change of the diet or the result will almost surely be fatal coma. The bowels must be kept freely open. Arsenic, Dr. Thomson considers in the class of antiseptic remedies that benefit in diabetes.

**Pathology not Necessary for Success in Treatment.**—Dr. F. C. Shattuck, of Boston, said that a knowledge of the pathological basis of a disease is not necessary to find a cure for it. Quinine and mercury prove this and in diabetes the physician has not been helpless because the cause remains a mystery. Not diabetes, however, is to be treated, but the patient. Dr. Shattuck believes in enforcing an absolute diet at once, not shortening the dog's tail a bit at a time. If acetone and diacetic acid are present then any sudden change in the diet is dangerous. After one to two months of strict diet a test of the patient's capacity for sugars should be made. Often it will be found that some starchy foods may be allowed. Bread and potatoes are the best forms in which to allow it, as patients crave these, as a rule. Dr. Shattuck has never found a so-called diabetic bread that remained palatable for any length of time. In one case he found a distinct variation in the starch content of an important manufacturers bread from one year to the next.

**Diet and Regimen.**—Diet lists are an abomination. Each patient must be a rule unto himself in this matter. The skim milk diet Dr. Shattuck has not employed because it was hard for him to understand how removing the fat and leaving the sugar of the milk was rational. Many patients improved on this diet, probably because the amount of food was thus limited. Quantity is quite as important as quality, and diabetics easily eat too much. In regard to wines Dr. Shattuck considers that Moselle or California Hock, which has practically no sugar, may be allowed. Outdoor exercise, but never to overfatigue, and care for the function of the skin are extremely important. Massage is also beneficial. With care the prognosis of individual cases of diabetes is not as bad as set down in the text-books, and Dr. Shattuck has many cases that have been under his observation more than ten years, some of them up to twenty years.

**Diabetes and Non-diabetic Glycosuria.**—Dr. Heinrich Stern, of New York City, reported a case in which, after an operation upon the parotid gland some glycosuria developed. Not more than three-fourths of one per cent. of sugar was passed. Two years later, after much mental worry, the same patient came under observation with over four per cent. of sugar in her urine. Under diet and care this was reduced to about three-fourths of one per cent., but could not be made to disappear. While passing four per cent. of sugar the woman was losing weight, was extremely uncomfortable, had a harsh, dry skin and other annoying symptoms. These all passed away under treatment, yet the sugar could not be made completely to disappear, showing that she was suffering from a non-diabetic glycosuria, giving no constitutional symptoms to which, for the time being, was added a true diabetes.

At the evening session of the first day, President Hadley, of Yale, delivered an address on the

**Conflicting Claims of General Education and Professional Education.**—He discussed the present attempt to cut down the college course from four years to three as sure to end in still further reductions of it till it became a vanishing quantity. College education broadened and made men of the students. The education at the professional schools became too much the handmaids of commercial success. Commercialism is good, but not to excess. The shorter the course of liberal studies the less a man is developed. He has less personal satisfaction in life and he thinks less of

the good of the commonwealth of which he is a citizen. The older, broader education made better lawyers and doctors for the community than the modern specialism. There are now more lawyers with large incomes, but fewer Websters and Calhouns. Physicians of the present day probably realize the same thing as regards old-time doctors and their contemporaries. Broader men are needed, with less of special intensity and less of personal success, but with more of self-development and getting more real pleasure out of life. Anatomy and chemistry learned outside of the professional school will have more influence on the development of the individual than if learned in the medical course. There must be no lowering of professional standards, but arrangements must be made so that students educated in the college departments will receive full credit for work already accomplished. All members of the learned professions must be educated men first and technologists afterward. The sooner the mind turns to its life-work the better. The later a man's horizon becomes limited to the sphere of his life-work the better.

**Status of the Medical Expert.**—In the President's Address, Dr. Algernon Bristow, of Brooklyn, described the present unfortunate state of affairs as regards medical expert testimony and suggested, since lawyers would not agree to the abolition of the present system, which tempted unworthy members of a great profession to drag its name in the mire of shame, that before a physician should be able to qualify as a medical expert he should be in practice at least five years, and should pass a special examination on matters selected by the State Board of Examiners. Until this arrangement came into force experts might be only those who were teaching at medical schools or had been in practice for twenty years.

At the President's reception, held at the Hotel Ten Eyck, just before the annual banquet, by special invitation of the retiring president, the members of the Joint Committee of Conference for the Consolidation of the State Medical Society and the State Medical Association received with him as a public acknowledgement of the reconciliation so nearly concluded.

The officers for the ensuing year are: President, Hamilton D. Wey, of Elmira; Vice-President, Joseph D. Bryant, of New York; Secretary, Frederic C. Curtis, of Albany; Treasurer, O. D. Ball, of Albany.

(To be Continued.)

## THE SOCIETY FOR EXPERIMENTAL BIOLOGY AND MEDICINE.*

*Fourth Regular Meeting, held December 16, 1903.*

The President, S. J. Meltzer, M.D., in the Chair.

Reports of original investigations were offered as follows:†

**The Changes in the Viscosity of the Blood Produced by Various Experimental Procedures.**—Paper by Dr. Burton-Opitz, who described and demonstrated the apparatus used in determining the viscosity of the blood. This demonstration was followed by a discussion of the changes in the molecular friction of the blood after intravenous injections of distilled water, saline, dextrose and alcoholic solutions. The effect of alcohol, when introduced into the stomach and small intestine, was also noted. Next were considered the changes following subcutaneous administration of curare and the differences in the viscosity of arterial and venous blood. K, the coefficient expressing the viscosity, was determined before and after each experimental procedure, two or three determinations being made in each case. It was found that, if distilled water, in quantities of from 5 to 50 c.c., is slowly allowed to flow into the facial vein, the viscosity of the blood is increased, but the increase is not considerable. The following experiment may serve as a sample: The normal coefficient K, in a dog weighing 19.2 kilos, was 802.6, or 5.8 times greater than K for distilled water at 37° C. After the injection of 10 c.c. distilled water the coefficient showed the value 786.0, or 6.0 times greater than distilled water at 37° C. Normal saline solutions produce the reverse effect, *i.e.*, the blood becomes less viscous. In one case after injecting 10 c.c. of 0.7 per cent. NaCl solution, the viscosity of the blood fell from 5.9 to 5.6 times that of distilled water at 37° C. Concentrated solutions of dextrose (5 c.c.) injected into the facial vein, bring about an increase in the viscosity of the blood which is more pronounced than that produced by distilled water. About half an hour after the injection the coefficient K shows again its normal value. If from 3 to 5 c.c. of 10 per cent. or 25 per cent. solutions of alcohol in water are allowed to flow into the facial vein, the molecular friction of the blood becomes greater. The same result can be obtained by introducing the alcohol directly into the stomach, or duodenum. Thirty cubic centimeters of a 25-per-cent. solution were injected into the stomach. The viscosity determined twenty minutes later showed the value 608.09, as against 664.17, the normal coefficient. Thus, instead of being only 7.0 times greater than that of distilled water at 37° C., it changed after the injection to 7.7 times greater. An equally decisive change occurred after injecting 40 c.c. of a 25-per-cent. solution into the duodenum. A marked increase in viscosity also follows subcutaneous administration of curare; however, this result is not evident until the respiratory muscles become paralyzed. Venous blood is slightly more viscous than arterial, but the difference is often very insignificant. In all these determinations a direct parallelism exists between the viscosity-values and the specific gravity. When the viscosity increases, the specific gravity increases also, and vice versa. Not a single exception to this rule could be found. The viscosity was also determined in a dog having very large thyroid bodies. The right gland weighed 57, the left 52 grams. The viscosity-coefficient, obtained by eight determinations, showed the value 1233.17 (specific gravity 1,05028) which means that the blood of this animal was only 3.8 times more viscous than distilled water at 37° C. The lowest previous value obtained by Dr. Burton-Opitz, occurred in a dog after three days of hunger. K equaled in this case 1110.3 (4.2 times more viscous). In general it may be said that the less the viscosity, the longer the period required for extra-vascular coagulation. This was especially well shown in the case just mentioned. Clotting set in after about fifteen minutes.

**Survival of an Animal After Removal of Both Suprarenal Capsules, Due to a Previous Grafting of the Organ Into the Kidney.**—This paper was reported by Dr. S. J. Meltzer for F. C. Busch and Charles van Bergen, of the Department of Physiology at the University of Buffalo.

Dr. Meltzer stated that in several instances survival of a part of suprarenal grafts was obtained after transplantation into the kidney of the same animal. In one experiment the animal (a rabbit) survived, after apparently all other suprarenal tissue, aside from that

* Proceedings reported by the Secretary, William J. Gies, M.S., Ph.D., New York.

† The abstracts here given have been prepared by the authors themselves. The secretary has made only a few abbreviations and minor changes.

which was grafted into the kidney, had been removed. In this case, after total removal of the left suprarenal a part of the gland, including medulla and cortex, was introduced through an incision into the cortex of the left kidney. Eighty-six days later the remaining right suprarenal was also removed *in toto*. The animal survived the operation and was apparently normal for twenty-one days, at the end of which time it was killed in order to examine the graft. This was found, upon histological examination to have been in part replaced by connective tissue. The surviving cells apparently belong to the medullary portion of the suprarenal. The cortex had been replaced by connective tissue. Blood supply was good. Slides showing the successful grafts were exhibited under the microscope. In this connection, also, Dr. Meltzer showed, under the microscope, a section of Zuckerkandel's organ, the chromophilic bodies of which are similar in nature to the chromophilic granules of the medullary portion of the suprarenal capsule.

**On the Absence of a Cane Sugar Inverting Enzyme in the Stomach.**—It was shown by Professor Lusk that free hydrochloric acid and not an enzyme caused the inversion of cane sugar in the stomach.

**A New Head Holder for Rabbits, with Demonstration.**—Frederic S. Lee.

The following reviews were made:

**The Action of Potassium Cyanide Upon the Unfertilized Egg.**—Paper by Holmes C. Jackson. Loeb and Lewis were the first to note the fact that unfertilized eggs (of the sea urchin), when placed in $\frac{n}{1000}$ KCN solutions, retain their capability of fertilization much longer than when suspended in normal sea water. This was ascribed to the action of the KCN in inhibiting intracellular autolytic processes which lead normally to maturation and finally death. The bactericidal action of KCN was excluded, as the result of experiments in which eggs apparently died as rapidly in sterile as in putrid sea water. Gorham and Tower's experiments, in the same connection, indicated, on the other hand, that the effect of KCN was entirely bactericidal. The sterile eggs retained their capacity for fertilization longer under absolutely sterile conditions than when placed in $\frac{n}{1000}$ KCN. As the question now stands, there exist two almost identical series of sterilization experiments by two pairs of investigators with results diametrically opposed to each other. Critically considered, the more carefully conducted experiments seem to be those by Gorham and Tower; and in the lack of further evidence in favor of an intracellular action of KCN in this connection, we must conclude that the destruction of the bacteria by the KCN removes the condition which causes the death of the cell, and in the absence of which the eggs retain their potential power for growth after fertilization.

**Results of Recent Investigations in Proteid Chemistry.**—Paper by P. A. Levene. Recent work on the chemistry of the proteid molecule has furnished explanation of many biological phenomena. Thus, in certain pathological conditions there appears in the urine a sulphur and nitrogen containing substance, cystin. The source of the substance in the organism had been unknown, until, through the efforts of Mörner and Embden and others, its radical was demonstrated to be a normal constituent of the proteid molecule. The chromatin of a developed cell differs from that of an unfertilized egg by the presence in it of radicals of purin bases. It is probable that these bases are derived from the histidin radical, which is also a normal constituent of proteids. Hemoglobin is known to be absent from the unfertilized egg and it appears only in course of development of the embryo. It was shown recently that the non-proteid part of hemoglobin is a pyrrol derivative, and it is probable that a pyrrol radical is present in the proteid molecule. Chlorophyl is also a pyrrol derivative, a fact further establishing its close relationship to hemoglobin. The work of Emil Fisher points to the way in which the various component radicals may combine in order to form the proteid molecule, and makes probable the eventual synthesis of true proteid material.

NEW MEMBERS.—The gentlemen named below were elected to membership: A. C. Abbott, Isaac Adler, B. H. Buxton, J. McK. Cattell, H. L. Cushing, E. K. Dunham, Simon Flexner, Reid Hunt, Hugo Münsterberg, J. A. Murlin, Hörst Oertel, E. L. Opie, Theobald Smith, A. B. Wadsworth, R. S. Woodworth, Naohidé Yatsu.

## BOOK REVIEWS.

PHYSICS AND INORGANIC CHEMISTRY. A Manual for Students and Practitioners. By ALEXIUS MCGLANNAN, M.D., Associate Professor of Physiological Chemistry, Instructor in Clinical Laboratory, College of Physicians and Surgeons, Baltimore. The Medical Epitome Series edited by V. C. Pedersen, A.M., M.D. Lea Brothers & Co., Philadelphia and New York.

IF a medical student wishes a pocket-book on physics and chemistry to help him pass his examinations, this is the one for him. More matter could not easily have been condensed into such small compass; its extreme brevity, however, makes a course of lectures or laboratory work imperative for its understanding. Of X-rays the unmodified statement is made that they have the property of "passing through substances opaque to light." Of antidotes in barium poisoning, the author says "soluble sulphates precipitate barium sulphate in the intestinal tract." Why not also in the stomach? Sodium carbonate is given first place as antidote to nitric acid, though we are afraid the carbon dioxide gas disengaged may prove troublesome. Under cryoscopy nothing is said about the blood or any other liquid except the urine. The paragraphs on valency are types of the combination of brevity with obscureness; their words mean nothing except to one who already understands the subject. But, after all, an epitome cannot be a complete text-book, and this certainly well lives up to its title of "medical epitome." Among its worthier features we note the listing under each chemical of its pharmacopœial preparations, and the addition to the important poisonous elements of "toxicology and tests." As a brief scheme for examination review it is as good as the best.

NOSE AND THROAT WORK for the General Practitioner. By GEORGE L. RICHARDS, M.D., Fellow American Laryngological, Rhinological and Otological Society; Otologist and Laryngologist Fall River Union Hospital, etc. International Journal of Surgery Company, New York.

THIS book, based principally on the author's own experience, is intended as a working guide for those with little experience in the treatment of nose and throat affections. And we are pleased to see that the author talks about his treatment, not in the perfunctory manner of so many treatise writers, nor in the "complete" manner of those who must give every kind of treatment ever used, but as if he believes that you are going to use his treatment in your very next case, and you really want to know just what to do. In tonsillar hemorrhage he avoids the use of hemostatics, such as

alum, Monsell's solution, etc., but recommends hydrogen peroxide, hot water or ice. He always has a long hemostat in his tonsillotomy outfit for a vessel which is spurting. We agree with him that the acute inflammations of the antrum commonly tend toward recovery, and warn against too much readiness to pull a tooth or operate in these conditions. The illustrations, mostly selected from foreign works, are poorly printed. More of them should have been included in the section on the throat. The paper, printing, etc., have a cheap appearance quite in contrast with that of most of the medical books of to-day.

A TEXT-BOOK OF OBSTETRICS. By BARTON COOKE HIRST, M.D., Professor of Obstetrics in the University of Pennsylvania; Gynecologist to the Howard, the Orthopedic and the Philadelphia Hospital, etc. Fourth edition, with 746 illustrations. W. B. Saunders and Company, Philadelphia, New York and London.

As almost all the diseases of women are consequences or complications of childbirth, their preventive treatment is in the hands of the obstetrician. This is the keynote of the present revision, and the author, himself a noted gynecologist, has devoted much attention to the diseases of the genital organs associated with or following childbirth. In addition the recent literature has been reviewed, and changes and additions made with a mind always for the more ready cure of the patient. In a previous review our appreciation of this highly illustrated book was manifested. The author discusses at some length the propriety of attempting to relieve the suffering of the second stage, and believes that it is only humane to do so as far as is possible without interfering with the labor. He considers ether "an efficient, convenient and satisfactory agent" for this purpose, advising that it be used only a few drops at a time, only when the pains come on, and only to produce analgesia not anesthesia. For convenience of administration, ease of control and lack of unpleasantness to the patient, we think that most obstetricians prefer chloroform. To avoid lacerated perineum his advice, if it is evident that the vulvar opening must be torn, is to nick the sides of the vulva rather than let the perineum tear perhaps into the rectum. He sometimes waxes sarcastic over the bungling obstetrical work so often seen. The illustrations are all that could be desired and are well-executed, and the book as a whole is one that it gives us pleasure to commend.

A MANUAL OF HYGIENE AND SANITATION. By SENECA EGBERT, A.M., M.D., Professor of Hygiene and Dean of the Medico-Chirurgical College of Philadelphia, etc. Third Edition, Enlarged and Thoroughly Revised. Lea Brothers & Company, New York and Philadelphia.

FOR a brief real hand-book of the important subjects that it treats, there is probably no manual of hygiene that is as complete and as practical as this handy five-hundred-page volume of Professor Egbert's. It is really surprising how completely such technical subjects as the antitoxin theory, Ehrlich's lateral chain theory, immunity and our limited knowledge of toxins and ptomains are discussed. The chapters on personal hygiene, on school hygiene and on military hygiene deserve to be read not alone by physicians but by everyone interested in these special subjects. In the chapter on personal hygiene occurs the very apt quotation from Fothergill with regard to the use of alcohol that is very pat at the present time. "First, never have alcohol in the brain when it has work to do; second a little alcohol betwixt a man and past trouble is permissible, but it is not well to put alcohol in front of a coming trouble." The quotation is worth remembering in the light of recent discussions as to the physiological effects of alcohol. Dr. Seneca's book deserves the popularity that has brought it into a third edition within a few years.

TRANSACTIONS OF THE SOUTHERN SURGICAL AND GYNECOLOGICAL ASSOCIATION. Vol. XV. Fifteenth Session, held at Cincinnati, Ohio, Nov. 11, 12 and 13, 1902. Edited by W. D. HAGGARD, M.D. Published by the Association.

THESE transactions contain their usual quota of interesting papers and discussions. H. H. Young contributes a dissertation in the surgery of the lower ureter, which contains much that is new and valuable. G. H. Noble describes a method of perineorrhaphy intended to reproduce the pelvic floor more perfectly, and a method for repairing complete tears, which diminishes the risk of infection from the rectum. The same author, A. H. Ferguson and F. F. Simpson each publish different plans of employing the round ligament in correcting malpositions of the uterus. The volume embraces reprints of thirty papers.

A LABORATORY GUIDE IN URINALYSIS AND TOXICOLOGY. By R. A. WITTHAUS, A.M., M.D., Professor of Chemistry, Physics and Toxicology in the Medical Department, Cornell University. Fifth edition. Wm. Wood & Co., New York.

PRIMARILY intended as a working guide for the author's students, this little volume has found a much wider sphere of usefulness. It gives in condensed form schemes for carrying out qualitative analyses of inorganic substances; a fairly complete review of urinalysis and the outlines of toxicology. It forms a convenient means of refreshing the memory on these subjects and the semitabular form of arrangement makes it convenient for reference.

## BOOKS RECEIVED.

*The* MEDICAL NEWS *acknowledges the receipt of the following new publications. Reviews of those possessing special interest for the readers of the* MEDICAL NEWS *will shortly appear.*

MT. SINAI REPORTS. Vol. 3. Edited by Dr. M. E. Brill. 8vo, 572 pages. Illustrated. New York.

TRANSACTIONS OF THE AMERICAN OPHTHALMOLOGICAL SOCIETY. Vol. 10, Part I. 8vo, 196 pages. Hartford, Conn.

MEDICAL AND SURGICAL REPORTS OF THE BOSTON CITY HOSPITAL. Fourteenth Series. 8vo, 178 pages. Boston, Mass.

PHILADELPHIA HOSPITAL REPORT. Vol. 5, 1900. Edited by Dr. H. B. Lyn. 8vo, 178 pages. M. H. Porter, Philadelphia.

MANUAL OF THE PRACTICE OF MEDICINE. By Dr. A. A. Stevens. Sixth edition. 556 pages. Illustrated. W. B. Saunders & Co., New York, Philadelphia and London.

THE HOSPITAL FORMULARY OF THE DEPARTMENT OF PUBLIC CHARITIES OF THE STATE OF NEW YORK. By Dr. W. E. Dreyfus. Sixth revised edition, 160 pages. 8vo. Illustrated.

ATLAS OF THE EXTERNAL DISEASES OF THE EYE. By Dr. O. Haab. Edited by Dr. G. E. deSchweinitz. 8vo, 232 pages. Illustrated. W. B. Saunders & Co., New York, Philadelphia and London.